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ADDRESSES.

TENDENCIES IN MEDICINE.

The President's Address to the Association of American Physicians, delivered at Washington, D. C., May 4, 1897.

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PHILADELPHIA.

It is expected of the President of your Association that he offer some remarks as introductory to the scientific papers that are to occupy your attention, and every presiding officer has done so, expressing himself on subjects for some time in his mind or to which he has been recently giving heed. Thus, diversified and excellent addresses have been made, some treating of medicine and its aims in a broad philosophical spirit; some reviewing its achievements; others giving most erudite and valuable historical information. In my turn I ask that you will indulge me if I present a few thoughts on what seem to me in our science the best tendencies of the day, as well as on certain causes that, with all the wonderful work being done, and with the immense energy and industry of the devoted laborers in four continents, retard its still broader and steadier development.

The greatest advance of our time—it seems trite to mention it to such an assembly—is the ardent study of the causation of disease. Students have speculated in all ages on the causes of disease; but these have been, for the most part, half-hearted speculations, made so by the feeling of impossibility of reaching a conclusion, or dogmatic assertions that, believed in for a time, soon became of interest only to the curious searchers for fragments on the shelving beach of science. Now, the recognition of minute organisms, their study, their artificial culture and modes of growth, their secretions, their chemical characters, their likes, their antagonisms, have let us into the secrets of another world and are showing us the way in which infective maladies originate and the laws they obey. We are looking for infection in every disease; we are often keenly pursuing it where it probably does not exist; at all events, not in the shape of bacteria, which in our day we accept as a term almost synonymous with infection. A sense of causation, formerly deficient, has been replaced by a most acute sense, and by a desire for unrelenting search. What is still greatly needed is, I think, an appreciation of how infection may light up slow processes and lead to structural complications, such as are found, for instance, in the exanthemata. We have also much to learn of bacteria that exist normally becoming abnormal in certain perverted conditions, either in manifold growth, as happens with the bacillus coli communis, or in character. What we consider the cause may thus be only the consequence of disease. The soil and its forces, too, are to be studied and critically examined.

But the power of this little, invisible world is mighty. It is told of Napoleon that he could never understand the fame of Cuvier. He spoke of him, with something like contempt, as only occupied with small things. Yet smaller things conquered even him, the great conquerer. It was the plague bacillus, not Sir Sidney Smith, that compelled him finally to leave Syria and give up his dream of subduing the East like another Alexander.

Other than mere bacteriologic work forms a most valuable part of the contribution of the laboratory to the investigation of disease, and in the last decade has placed this investigation on a much higher plane. The microscopic and chemic examinations of the secretions and excretions and of the blood have become our daily duty. The chemic examinations, which, dealing, as they may be made to do, with the constantly varying problems of life in disease, have been temporarily overshadowed by the ardor of bacteriologic research, will, with widening fields, resume their former prominence. The time is indeed at hand in which, without the ready access to a laboratory manned by experts in all these lines, or the association with a trained laboratory assistant, no physician can do his patients, himself, or his science justice.

Closely connected with the laboratory investigation of disease, especially with its chemic investigation, is the study of the effects of the prŏducts generated by decomposition of albuminous matter, producing, when developed in the dead body, the substances known as ptomains, when in the living body as leukomains. The recognition of these agents, so frequently poisonous, is explaining many obscure processes, is leading to new and close scrutiny of others and to search after means of neutralizing their toxic influence. It is with pride that this Association can view the history of this branch of research, for the fruits it has yielded have been largely gathered by the efforts of some of its own members.

Another of the best results of the achievements of our time is seen in the effacement of the strict division between medicine and surgery, or rather in the recognition that there are no lines separating them, but lines becoming continuous, on which joint action proceeds. We see this in the whole clinical history of appendicitis and its progressive unfolding; the more the medical part is studied and rendered precise, the more exact become the indications for operation and the appreciation of the chances of this. The same may be said of abscess and of tubercle of the kidney; of the investigations of the character of effusions into pleural, or pericardial, or peritoneal cavity; and of many other well-known conditions that surgeons and physicians are now studying together. This new tendency is sure to counteract not only the excessive specialism of our day, but to give us once more broader physicians and surgeons, taking the keenest interest in each other's work.

One of the greatest improvements in our generation

is in the much better appreciation and larger use of hygienic means, of systematic exercise, of baths, of regulated rest, of out-door life. Then, too, when medicines are given they are much more generally used singly, with a view to their direct effect, and not in excessive combination. Moreover, the substitution of extracts and of active principles for many of the nauseous drugs has taken away the terror and disgust with which medicines were regarded. It is, from a pharmaceutic point of view, at least, no longer a punishment to be ill. The satire of Molière is lost to the playgoers of our generation. The highly appreciated answer of the Bachelor of Medicine, when examined for his doctor's degree, that the remedies are always "Clysterium donare, postea seignare, ensuita purgare," would fall at present on totally unsympathetic ears; for now there are delightful capsules and triturates, and pills of esthetic colors—"dear little pink pills," as I have heard them called, though the dear little pills happened to contain strychnin. And the boy of the period is not tempted to view an open window as the only means of getting rid of the hated bottle; he may, indeed, want to take too much of it, because with all its potency, it is sweet and pleasant.

The tendency of our time is to endeavor to overcome disease, and not merely to observe and palliate its ravages. We are going back to the doctrines of our forefathers, abandoned for a time because, with an expanding knowledge from the study of pathology, the means they possessed were found to be, for the most part, totally inadequate. Thus there was a period of nihilism and expectancy in therapeutics. But so-called rational expectancy is but a confession of impotency. Now the tendency is once more aggressive. We are trying directly to choke or to subvert morbid action, and doing this partly through the old transmitted remedies of former generations, but employed with a better understanding of their real qualities, partly by new agents furnished by chemistry and by constant research in other fields. Of the former, the freer and more scientific administration of digitalis may be taken as an illustration; and the use of mercury, though in a different manner, is infinitely more prevalent than it was some years ago. To bleeding, too, I, for one, believe that we shall return; only it will not be the mere abstraction of blood perverted by disease, but there will be, with this, immediate attempts at the reconstruction of the blood by supplying it with the proper saline fluid and other ingredients. In the second class, the bromids, chloral, the nitrites and nitroglycerin are prominent, as is a whole group of antiseptic agents. Many of these—it is especially true of the nitrites—have come to us from the physiologic laboratory. One of the most interesting attempts at radical therapeutics is the endeavor to counteract the bacteria of disease by substances that form in the body which neutralize their toxic products. This antoxin treatment is brilliant and hopeful, and is being tried in many affections, preëminently in diphtheria, in tetanus and in erysipelas. It can not be said that as yet it has led to any great results, though the evidence is decidedly in its favor in diphtheria. It seems scarcely worth while to push it in erysipelas—at least in erysipelas that the physician sees—for the mortality in this is, under any treatment, but very slight. How valuable the antitoxins will prove as preventives remains also to be solved. More productive thus far has been the use of attenuated virus, as, for instance, in Pasteur's treatment of hydrophobia; the influence in cholera, in yellow fever, in bubonic plague, is now under keen observation. The effects on tuberculosis must be taken thus far as the expression of hope rather than of fact. The next decade will prove whether the X-rays, which are making such wonderful additions to diagnosis, will also have their therapeutic triumphs. In it, too, we may look for some striking developments of suggestion, not only as explaining mental and morbid processes—what more extraordinary and thought-starting, for instance, than the recently tested production of special cutaneous affections by it?—but as a harnessed therapeutic force. All this is in the line of present investigation, and there will be much disappointment and wasted labor in particular points, but it is not too sanguine to believe that there will be also a solid outcome which will immensely advance scientific medicine.

There are, with all these tendencies of our day that work for good, some which, whether growing out of them or whether the exaggeration of old hindrances, have to be, in the interest of true science, strenuously guarded against. One that is very evident is the tendency to immediate generalization. The discovery of every new bacterium is supposed to instantly revolutionize the science of medicine and is announced with all the air of the unexpectedness of genius. Fortunately or unfortunately, one may be discovered every day, and a man may thus find himself with three hundred and sixty-five opinions on the tenets of his art in the course of the year; but this would not daunt the enthusiasm of the insatiate generalizer:

"Ten thousand great ideas filled his mind,
But with the clouds they fled, and left no trace behind."

Fixity of opinion in medicine is a virtue, if the mind remain open to proof and be in sympathy with advance; and it is this freshness of mind, joined to good judgment, through which is best estimated the true value of the many facts constantly discovered in an advancing science like ours. Clinical medicine, indeed, must continue to be the final court of appeal for the purposes of the practitioner of medicine. Before the court will come and be listened to with sympathetic interest, as eloquent advocates, those who are presenting the claims of special studies. But these must be well supported and judged in their bearing on the whole before new laws are laid down. And we see that the more we investigate and the more we know the more will old questions assume different aspect, the more they will have to be retested; there is no finality—there can be none—in medicine. When the last word is spoken we shall have a perfect science; until then there must remain for us a certain amount of empiricism, especially in treatment.

There is no doubt that, considering the amount of work done and recorded, medicine—especially clinical medicine—would be much more advanced if the records were differently made, and were not so vague as they often are. What is more provoking than to see constantly such loose statements as this: "The examination was negative." Negative as to what? If applied to the action of an organ, as to what part of its action? If to secretions, to what part of their constituents? How much easier to say, even if it have been an incomplete examination, for what exactly they were investigated, and how much more certain to be of use for comparison in similar cases. Worse still is it with the records of treatment. This is an ever-recurring expression: "The usual treatment was

employed." I saw this in a recent volume of *Transactions* with reference to the congestion of the lungs in typhoid fever. What is meant? Is there such a thing as a fixed treatment for it the world over? It might mean dry cups to some; ammonia, turpentine, digitalis, or yet different things to others. Then the utter absence of mention of doses makes it impossible to say whether any remedy was fully tested, or to compare its action when given in small or in large quantities. For very many purposes records, as published, are valueless; in truth, they impede progress, and a little care would make it otherwise.

Then there are records which, made even to the full limit of industrious exhaustion, are so badly and confusedly presented that they bury themselves from the start. A little more time spent on their expression might make them absolute and convincing. It would be, indeed, well if in all our professional literature there were something more of the learning of the scholar and the clearness of the literary artist; men who followed the master, Harvey, in other points besides profound and productive research. A few more Watsons and Pagets, Trousseaus and Hyrtls would make knowledge easier to obtain, more constantly with us, forming much more a part of our daily life and application. It is true that if, in our science, we must choose between profound inquiry and its clear enunciation, we shall choose the former. It is a pity, and it is unnecessary, that there should be any occasion for a choice. The French, with their lucidness in scientific matters, set all other nations an example. The countrymen of Goethe, foremost in investigation, following his avowed contemptuous indifference to style, are the great sinners against clearness and vivid expression. They evidently believe in the reverse of the thought with which Johnson excused the inaccuracies in Goldsmith's "Animated Nature," that, if he once began to make experiments, life would be too short for him to get his book written.

One more tendency of the day let me notice, which is not for good, and undoubtedly retards progress. It is the excessive publication of half-knowledge, of doubtful fact and of loose inquiry. The propensity for authorship is an old disease, but it has assumed a development commensurate with the prodigious development of everything else in the age in which we live. It is harmless in journalism, less so in literature, but positively dangerous in science; for it fills this with immature or false observation, and takes the time of others to remove the obstructions placed in the stream of knowledge. With some, want of sufficient training leads to it and absence of inquiry into what has been already ascertained; in others, in proceeds from a girl-like genius that, in place of letter-writing, pours itself out in medical periodicals, fascinated by penning sentences full of pseudo-scientific commonplace. It is far from being a disease only of the untried or ignorant; famed workers, too, may succumb to it, listening, perhaps, to the entreaties of friendly and sleepless editors. Who knows that it is not, after all, a physiologic function, giving full play to brain-centers in very rare use—centers situated in what Oliver Wendell Holmes has called the idiotic area of the brain.

But whatever the retarding influences, they are not to any extent checking the onward course of medicine. The numerous inquiries, the keen experimentation and close research, the general thoughtfulness, are developing a resistless scientific method; resistless because it is true. Medicine is no longer an art founded only upon empirical observation, no longer a purely deductive science; it is becoming also an inductive one. The great body of the community is touched with friendly interest in watching its growth. With the advance of the scientific method special systems are crumbling; future ones are impossible. There can be no more pathies; the general intelligence will prevent it; for educated men are recognizing the broad base on which medicine is resting, and that truth is sought in it by the same means that are used in physics and in the highest development of other sciences. In our midst with all this, conviction is becoming clearer, purpose waxing more resolute. We see, without pang, castles which have crowned rocks being turned into dismantled memories, because we know that something stronger, that will defy all time, will stand ultimately on the old commanding sites. Everyone of us must work until he discovers in his work his true self, and then aid with what he finds he can do best in helping all. With every one of us there is a mission to assist the general advance.

THE ANTISEPTIC TREATMENT AND THE LIMITATION OF CLIMATIC TREATMENT OF PULMONARY TUBERCULOSIS.

President's Address Delivered at the Meeting of the American Climatological Association, Washington, D. C., May 4, 1897.

BY E. FLETCHER INGALS, M.D.

CHICAGO.

Gentlemen of the American Climatological Association:—In assuming the duties of your presiding officer, I again thank you for the high honor which you have conferred upon me and wish to congratulate you upon the status of this Association. From the origin of this Association to the present time it has steadily increased in numbers and grown in influence until at present its members are scattered throughout the length and breadth of this land and exert an untold influence for the advancement of science, the alleviation of suffering and the prolongation of human life. In 1884 this Association numbered forty-two members. Since that time we have had enrolled, all told, 191 names. Of these, ten have been dropped, thirty-five have resigned and thirty-two have finished their work. During the year just passed we have been called upon to mourn the loss of one of our fellows, Dr. Jacob Reed, of Colorado Springs. Dr. Reed had lived in Colorado Springs over twenty years and was much respected and beloved by his acquaintances. He was a man of strong individuality and an active, earnest physician who will be greatly missed. Today we number 114 active members and the council will present several new names for your consideration.

When this Association was first organized the climatological possibilities of the United States were almost unknown; since then the industry and enthusiasm of our members, aided much by the accurate data obtained by the United States Weather Bureau, has demonstrated the fact that within our borders may be found every variety of climate possessed of value in the healing or prevention of disease. Twenty-five years ago there were a few more or less noted health resorts in the country, where invalids repaired of their

own volition, or were occasionally sent by the few physicians familiar with the locality; but numerous places where invalids may now obtain satisfactory accommodations in the best atmospheric conditions were unknown. That the members of our Association have done much in searching out the more valuable resorts and in securing suitable accommodations for patients can not be gainsaid, and that we have correspondingly added our share to the great work of prolonging human life and mitigating suffering, no one can doubt, but that very much is yet to be learned, that the deductions from our observations are still in many instances crude, and that we have often been too enthusiastic in our hopes for individual localities, can not be denied; yet, as a rule, our members have been reasonably conservative in their estimates of the value of climate and have patiently and conscientiously studied and labored for the advancement of science and the benefit of their patients.

Over-estimation of the value of climate, as well as of drugs, often occurs through inexperience or over-enthusiasm of the physician, and usually the most laudatory articles are from the pens of those having comparatively little information. We all grow more conservative as the years go by and most of us learn that the deductions from some, even of our own, earlier observations are erroneous; therefore, it not infrequently happens that the careful physician finds himself unable to accept the conclusions even of one who may have been painstaking and conscientious in his work. The physician must needs wait two or three years for any climate or any medicine to be tested before he can form a fair estimate of its value. It must be remembered that the varying conditions affecting limited observations may necessarily militate much against the conclusions drawn from them and, therefore, one who is slow to accept new hypotheses should not at once be put down among ancient geologic specimens.

The purpose of this paper is not to build up new theories nor yet as an iconoclast to tear down where we are unable to replace, but to draw the attention of this Association and of those who may read our proceedings, to a few important facts which seem established by experience.

In the title of this paper I have referred to the antiseptic treatment of pulmonary tuberculosis which, in the light of our present knowledge of the origin of the disease, seems to me to have a specific tendency to check its progress, though I would in no way minimize the importance of tonic and supporting treatment and of good hygienic surroundings.

Since the Koch bacillus was recognized as the ultimate cause, that under favorable conditions, produces tuberculosis, there have been unceasing experimentation and careful clinical observation to find some agent or agents that would destroy the microbes without injury to the tissues upon which they rest or within which they may be imbedded. Contemplating this long line of experiments and scrutinizing the vast array of statistics, we are forced to admit that it has not been demonstrated that any remedy, or any class of remedies, has the power to destroy this bacillus when ensconced in the human body, with any degree of certainty; yet when we carefully analyze the various methods of treatment that have been more or less successful in checking the progress of the disease, we nearly always find that they have been of a distinctly antiseptic character.

We must remember that, although the bacillus is the ultimate cause of tuberculosis, it is innocuous excepting under favorable conditions, and therefore those supporting measures that enable the tissues to pen up or to bar out this pestilential microbe must receive a large part of the credit for the successful management of any case. The late Austin Flint, in his work on phthisis, stated that very many of the phthisical patients that had recovered were those who had refused or neglected all treatment. This must not be taken as advice to those suffering from tuberculosis to rely upon mental influences and reject the assistance of science, for it is reasonable to suppose that the majority of those who have recovered without any assistance have done so from the sheer resisting force of their vital processes, and that many of those who did not recover relied too long upon the *vis medicatrix naturæ*, only to find that it failed at the end, while judicious treatment might have saved their lives.

The fact referred to by Austin Flint reminds us that we must be extremely cautious in attributing to any particular remedy the benefit that may occur in any individual patient, or in any series of patients, with consumption; yet typical cases that have been cured, and have remained well under conditions where the majority of patients would have steadily grown worse and died, may justify us in believing that the remedies used were of some value and that a more perfect application of the same may ultimately lead to even better results. I know, and I wish that the general profession could realize as it should, that no case of consumption can be classed among the cured in eighteen or twenty months and that even many who live for years can never properly be called cured. Nevertheless, I hope to show by a few briefly reported cases that betterment sufficient to commonly be termed a cure may often be obtained from antiseptic treatment. From my own experience I fully believe that aside from tonic and nutritive agents, antiseptics are the only medicines that have any power in checking the progress of tuberculosis, and I as firmly believe that when they are thoroughly used so as to bring the system as nearly as possible to a point of saturation they are of great value in a large percentage of cases, if used in the early stage of the disease.

The first case to which I wish to call attention was treated by the Shurly method and reported, with a series of others, to this Association several years ago, but it has acquired additional interest from the time that has elapsed since that treatment, and from the good health the patient now enjoys, though he remains in the same surroundings as when the disease was contracted. In this instance the patient greatly improved under the use of iodin and, later, oil of cloves, with the occasional use of the extract of hyoscyamus, nux vomica and quinin for cough, appetite and digestion. The chief benefit appeared to come from the antiseptics.

Case 1.—V. W. J., aged 29, clerk, came to me in February, 1891, complaining of cough and expectoration of three or four weeks' duration, and stating that he had not been well for four or five months. He was able to attend to business, had not lost much flesh, but the pulse was 96 and the temperature 99. He was raising at the time about two ounces of muco-pus daily and had had two moderate hemorrhages in the past few months. There was not hereditary predisposition to phthisis. Physical examination showed diminished motion with high-pitched respiratory sounds over the left apex as low as the second rib, and indistinct subcrepitant râles. The microscope revealed many tubercle bacilli in the sputum. I instituted the

Shurly treatment, injecting from seven to fifteen of the solution of iodin every two or three days. I gave also a bitter tonic. The injections were continued in this way for about four weeks and subsequently once a week for six or eight weeks longer. At the end of eight weeks it was noted that he was doing well, the weight was normal and there was very little expectoration. Subsequently the patient was seen at intervals varying from one or two weeks to three or four months, or a year or more, at times when he had taken cold, or had some special cause of debility, but he was not kept upon any continuous treatment. Two years after he first began treatment, on account of a renewed cold with increased cough, he was given strychnia, with other bitter tonics, and the oil of cloves as an antiseptic. He took the oil of cloves in twenty-five drop doses for about three months, beginning it at a time when he went South for a vacation of five or six weeks and continuing it six weeks after his return, by which time he had gained fifteen pounds and felt so well that he discontinued all treatment. On two other occasions, when he became run down and the disease seemed to be lighting up afresh, he took the oil of cloves with the result, as he believes, of speedily checking the trouble.

Other remedies consisted of tonics, digestive agents and occasionally hyoscyamus as needed. He was out of the city on two or three occasions, but only for a short time. In January, 1897, when he returned to me on account of a slight cold, he was looking very well, and had had no symptom of tuberculosis for a long time.

Case 2.—The following case was also reported at the meeting just referred to, and as the patient is still in very good health a brief résumé of the history is of interest as it apparently shows good results from the antiseptic use of iodin, although the improvement has been mainly due to climate. I first saw Mrs. W. B. N. in April, 1888, when it was found that consolidation of the left apex extended as low as the third rib; subcrepitant râles extending considerably lower, with a few subcrepitant râles over the upper part of the right apex. She was given tonics and supporting treatment together with inhalations of iodin, under which she steadily improved until the latter part of gestation in the spring of the following year. Shortly afterward she began to decline and steadily failed until in August of the same year when the signs of phthisis had much increased and there was a large vomica in the left lung. She was extremely weak and anemic and her life was despaired of. She was so ill that it seemed impossible to obtain benefit by change of climate, but her friends insisted upon it and took her to California to an elevation of 2,500 feet. During most of her illness she had suffered much from disturbance of the digestive organs, and after arriving in California had what appeared to be an attack of tubercular meningitis; however, she gradually recovered and subsequently went for a few months to an altitude of 3,500 feet, in Texas, and later on to Las Vegas where she remained for a couple of months. At the time she went to Las Vegas I was using iodin according to Shurly's method and at my suggestion her physicians there placed her upon it. During about two months that she remained under the treatment she gained very rapidly and the expectoration greatly diminished. She then went to Colorado Springs where she is still living in comfortable health, though fibrosis has extended well through the left lung. When I first examined the sputum in 1895, it contained many tubercle bacilli. In this case climate undoubtedly should be given the credit for nearly all of the improvement, but although life was saved under the most unpromising circumstances by the antiseptic air of a good climate, yet two periods of especially marked improvement were coincident with the use of iodin, and the improvement was so great that I feel justified in believing that it was aided much by the antiseptic.

Case 3.—In the following case no other treatment was employed than the oil of cloves, which appeared to cause great improvement, but I saw the patient only twice and am unable to ascertain the subsequent history. Mrs. X., about 35 years of age, came to me about two years ago with well marked symptoms and signs of the early stage of phthisis. I ordered for her the oil of cloves in doses ranging from five to twenty-five drops five times daily, and I did not see her again for three or four months. She then returned having lost all of the symptoms of tuberculosis and many of the physical signs. She said she felt perfectly well. The improvement in this instance seemed entirely due to the antiseptic treatment, and the result might safely be called a cure if she still maintains the condition in which I last saw her.

Case 4.—The following case had the benefit of both internal antiseptics and of an antiseptic atmosphere.

Dr. G. C. A., aged 26, had been in good health previous to consulting me on August 18, 1894. He had lost one brother and two uncles from tuberculosis. Two months before seeing me he had a hemorrhage from the lungs and his temperature ran up to 103. At the time he consulted me his appetite and digestion were good but he had lost twenty pounds of flesh and was having a daily temperature of 100.5 to 103 F. He was coughing considerably and expectorating about one and one-half ounces of muco-pus daily. I found slight dulness at the left apex, low as second rib, with feeble respiration and subcrepitant râles extending down to the fourth rib. Microscopic examination showed many tubercle bacilli in the sputum. Antiseptics were ordered but when I saw him a few weeks later he looked so much worse that I was not at all surprised in a few months to hear the report of his death. However, the report proved untrue, for in November of the same year he had gone to Montana to an altitude of about four thousand feet, where he rapidly improved, gaining fifteen pounds within two months; but when the weather became bad he caught cold and began to fail. Shortly after he went to New Mexico where he again improved. During all this time he had been using guaiacol applied to the surface, and creasote internally. Soon after he arrived in Las Vegas, January, 1896, his cough disappeared and with it the pains which he had formerly suffered in the chest. He soon found that his respiratory capacity was increasing and ere long the difference in the circumference of the chest between inspiration and expiration amounted to five inches and he had gained thirty-one pounds since going to a high altitude. He continued the guaiacol and creasote and also took cod liver oil alternating at times with syrup of the hypophosphites.

This patient is now living in Denver in good health. In this case the almost continuous use of antiseptics was combined with the benefits of a high altitude and dry atmosphere, but the patient attributes much of the benefit to the antiseptics, and I have no doubt he is correct.

Case 5.—In the following case the improvement was apparently due to tonics and alcoholic stimulants. Mrs. D. K. M., aged 25, came to me on Nov. 15, 1895, complaining of pain in the left lung of three months' duration, cough, afternoon fever, dyspnea and loss of strength. She had lost ten pounds in weight in three months. She expectorated a small quantity of thick whitish sputum and about a month previously had raised nearly half an ounce of blood. The pulse when I first took her was 88, temperature normal. There was dulness at the left apex as low as the first rib. Subcrepitant râles numerous at the apex in ordinary respiration and heard all over the left lung on deep breathing. Respiratory sounds were diminished in intensity over the upper half of the lung, Many tubercle bacilli were found in the sputum. She was given moderate doses of nux vomica, hyoscyamus, quinin and carbonate of guaiacol in capsules. She continued these remedies for a year, but it does not appear to me that the doses of guaiacol were large enough to in any way account for her improvement. During this time she took a small glass of whisky before each meal and at bed time, and probably from this cause gained fifteen pounds. A year later, February, 1897, she had gained a few pounds more, was much stronger, being able to walk several blocks a day, coughed very little indeed and that only to clear the throat. Her pulse was reported to be from 84 to 88, but the temperature record I could not obtain. She had a splendid appetite and appeared practically well. This patient went to Manitou, Colo., for ten weeks shortly after she began the treatment and subsequently spent a few weeks in Kansas City, but she was steadily improving before she made these trips. She still takes the whisky occasionally.

Case 6.—The following case was uniformly benefited by antiseptic medicines although he also had the advantage of a good climate part of the time. Mr. A. G. A., aged 39, came to me first in September, 1891, complaining of hacking and clearing of the throat for the last three years and hoarseness for the last three weeks and some pain on swallowing. He had lost weight and strength and had experienced five or six hemorrhages from the lungs four months previously amounting to eight or twelve ounces each, as nearly as he could ascertain. He had a poor appetite, and had lost about ten pounds in weight and had suffered from dyspnea upon exertion. His pulse was 72 and temperature normal when I first saw him. The epiglottis and arytenoids were swollen 30 per cent., and the vocal cords considerably congested. There were no distinct sounds over the lungs upon percussion, but there was broncho-vesicular breathing with a few subcrepitant râles extending as low as the second rib in front and to the seventh rib behind. Microscopic examination showed a large number of tubercle bacilli in the sputum. I ordered for him the chlorid of calcium and maltine with hypophosphites, with small doses of cannabis indica and hyoscyamus to relieve cough and nux vomica and quinin to improve the appetite. He went to Colorado where he remained for five months. During

this time and until a month later he continued to take the medicines first ordered. He then called at my office and reported that he had not gained much in weight but had a good appetite and was very well. At this time I ordered for him the oil of cloves in doses of from five to fifteen minims to be taken five times daily. He returned to his home in Northern Wisconsin, where he remained until the following December. He then went again to Colorado for four months and from there returned to his home where he has remained ever since. I first gave him the oil of cloves May 21, 1892, and he took it for sixteen months, half of the time in doses of forty-five drops a day and the remainder of the time in doses of seventy-five drops daily. During this time he had gained about twenty pounds in weight, which he retained until the latter part of August, 1896, when he had another hemorrhage followed by severe gastric disturbance which continued for many weeks. During this attack he lost twenty pounds. In January, 1896, I ordered for him the carbonate of creasote which he took for about sixty days and then went back to the oil of cloves, which he continued to the first of March, 1897, since which time he has taken nothing. He has since then had an attack that he calls grippe and has lost ten pounds more. His appetite is not very good, but his pulse is only 84, temperture normal and he says he feels in fair general health and strength, and has at present very little cough and expectoration. He tells me that he has always improved when taking the oil of cloves, and he attributes most of the benefit that he has received to that remedy.

Case 7.—In the following case the improvement may be attributed to alcoholic stimulants alone. Mr. D. W., aged 47, came to me November, 1894, complaining of having taken cold and having expectorated about five or six ounces of blood in the last few days. He had been feeling poorly for about two weeks. There was a hereditary history of consumption on both sides of the family and he had lost two brothers and two sisters with the disease. His weight was normal, pulse 132, temperature 99.6. Physical examination showed consolidation of the left apex with not very well defined broncho-vesicular breathing and a number of subcrepitant râles. Many tubercle bacilli were found in the sputum. The oil of cloves was ordered for the patient, together with nux vomica, quinin and carbonate of guaiacol, but he appears to have discontinued all treatment after a week or two excepting three to five good drinks of whisky daily. Two years later when I saw him he had gained twenty pounds, the pulse was 102, the temperature normal and there were very slight physical signs of disease. He told me that he felt as well as he ever had in his life. In this instance I am inclined to attribute the improvement to the nutritive and antiseptic properties of the alcohol contained in the whisky. In health the bactericidal properties of the blood are able to destroy the bacilli with which we are constantly being infected; but in the depressed state accompanying actual pulmonary tuberculosis these elements are more or less deficient. If in this condition some antiseptic be introduced in small or larger quantity, according to the condition of the blood, we should be able to make up for this deficiency. If there is any ground for this belief, alcohol is exhaled so freely that it does not seem unreasonable to attribute to it an antiseptic influence in phthisis. The patient did not go out of the city and indeed made no change whatever in his residence or business excepting that he was obliged to take more rest because of great weakness.

Case 8.—The following history illustrates the fortunate outcome of a case of tuberculosis without the aid of either antiseptic remedies or antiseptic atmosphere. Although it appeared most unpromising in the beginning, it is introduced with the hope of rendering the reader more conservative in estimating the value of remedies and climates. Mrs. L. B. J., aged 31, came to me in February, 1891, complaining of trouble with the lungs of three years' duration, though she had been worse during the preceding six weeks. There had been consumption on her father's side of the family and she had suffered from inflammatory rheumatism five different winters several years ago. She had a very troublesome cough, especially in the morning, and expectorated about five drams of muco pus during the day, containing some blood at times. She weighed 147, having lost about five pounds. The pulse was 88 and regular, the temperature 100. She had a good appetite but poor digestion. Physical examination revealed dulness over the upper part of the left lung with subcrepitant râles as low as the seventh interspace and the microscope showed many tubercle bacilli in the sputum. She was then ordered moderate doses of cannabis indica and hyoscyamus to relieve cough, nux vomica for her appetite, creasote in small doses and papain for the digestion. She was given also a few injections of the chlorid of gold and soda and of iodin according to Shurly's method, but she objected to it on account of the pain. She continued internal remedies similar to those first ordered much of the time for about three months and subsequently I only saw her at irregular intervals of several months or a year or more. Four years after she first visited me there were still a great many tubercle bacilli in the scanty sputum, but she had gained flesh and to external appearance was in perfect health. Subcrepitant râles, which at times had been very numerous over the chest, had disappeared. I have not seen her for a couple of years, but my associate saw her upon the street in March of this year and reported that she appeared in excellent condition. After the first three months of treatment she took no remedies regularly, and she has not been out of Chicago for any length of time.

It is unnecessary to cite cases that have been relieved or cured by climatic treatment, because every one who has had much experience in the treatment of pulmonary tuberculosis must have observed many patients who were undoubtedly benefited by change of climate, yet in a large percentage of such cases it is impossible to estimate accurately the real cause of improvement. I have no doubt that in many instances the change of food, of scene and of other surroundings which might stimulate the process of nutrition, has as much to do with the favorable progress of a case as continued residence in a pure atmosphere. This was illustrated in the case of a gentleman who was for several years under my care in the latter part of the eighties suffering from pulmonary tuberculosis, but who without any change of climate maintained a good degree of health that allowed him to attend to business with only now and then a few days' confinement to the house; but at the end of three or four years he began to have hectic fever, to emaciate rapidly and to cough excessively. There were present also numerous pulmonary signs indicating rapid progress of the disease in the lungs. At the time his financial condition was such that he felt unable to go to a different climate, but he obtained the opportunity of making a short trip of only about three weeks to Dakota, from which he returned very much improved. The improvement steadily continued, and in the course of a few weeks more he was as well as he had been for a long time. Subsequently he continued at his business for about four years, then again began to decline and went to the southwest into a dry atmosphere and high altitude, where he again improved for a time, but at the end of a few months he died suddenly from hemorrhage. In this instance certainly very little could be attributed to the pure atmosphere, and we have every reason to believe that the improvement was like that of many other persons whom we every year see gain greatly in mental and physical vigor from short vacations.

If we concede that certain cases may be benefited by a simple change to agreeable scenes and surroundings, we must also admit that certain other cases, when placed in the best climate away from home and friends and under various depressing conditions, speedily grow worse and rapidly decline and die; whereas they might have lived for months, or possibly years, if they had remained at home. Another difficulty in estimating the value of climatic influences arises from the fact that some patients, when they go away from home, continue the same treatment which had been used previously, and therefore it would be unjust to ascribe all improvement to the climatic conditions. Many physicians in favored climates are accustomed to tell patients as soon as they arrive in the pure atmosphere to discontinue all previous treatment; but at the same time some physicians endeavor to impress upon the patient's mind the necessity of yielding

themselves to the climatic influences, with the aid of such remedies only as the exigencies of the physician may demand. I believe that in many cases such advice is most untimely, for if we admit that remedies do any good in unfavorable climates, we must also admit that the same remedies should aid in the restoration to health much more when the patient was placed amid favorable surroundings. I have known not a few who were doing comparatively well at home go to a favorable climate with the result of becoming immediately worse and rapidly declining to death. Some of these I fully believe might have lived much longer if they had not made the trip, and some of them I think might have continued to improve even more rapidly with the trip, if they had continued former remedies.

As I have elsewhere stated, I believe that, all told, about 33 per cent. of patients with pulmonary tuberculosis recover under ordinary conditions, and I think that patients sent early to a high altitude and dry atmosphere have their chances increased fully 50 per cent. This belief is based upon the well-known fact that the records of autopsies show that in 25 per cent. of bodies dying from other diseases than pulmonary tuberculosis, the previous existence of this disease is demonstrated in the apices of the lungs; also upon the oft-repeated statement that a large percentage of those sent early to a good climate recover; and further, upon my personal observation of many cases. After consolidation of the apex of the lung has extended below the third rib, by which time the second stage is generally fully established, I feel that I have ample reason for believing that from 15 to 30 per cent. may be greatly benefited by climate, although life is seldom prolonged more than five or six years. Even after breaking down of the lung tissue has begun, a few may have their lives considerably prolonged by suitable climate. I have no doubt, however, that in the latter part of the disease the fatal result is generally hastened by the fatigue and the mental and physical distress incident to the journey. The physician should carefully study not only the physical, but the social and financial conditions of his patient before recommending a change, and while it is not necessary to say it to the members of this Association, I wish to impress upon others that it is neither scientific nor kind to send patients with consumption indiscriminately to places from which we have simply heard favorable reports. As a rule, in the first stage a warm climate is most salutary, but it is not so important, providing an abundance of sunshine and a dry atmosphere are obtained, although many phthisical patients are better in a southern latitude in winter. It will be found that patients who feel best in winter are likely to be benefited by a comparatively cool climate, the others in a warmer temperature. In the first stages it is desirable, when there are no contraindications, that patients go to an altitude of from six to seven thousand feet, but this is not suitable for persons who are nervous to a marked degree or who have a high temperature, or who have pronounced cardiac disease, emphysema, or laryngeal complications. Laryngeal tuberculosis is generally markedly aggravated by high altitudes. Hemoptysis is not, as is often supposed, a contraindication to a sojourn in a high altitude. On the contrary, bleeding is often promptly checked by this change, and those who seldom or never have hemorrhages in a high altitude frequently experience them quickly upon return to a lower level. In the second stage of the disease a high altitude is often beneficial, but we can not feel so certain of its results, therefore it is best to send the patient to an altitude of not more than two or three thousand feet, and if they do well, subsequently advise the higher level. A warm, moist atmosphere seldom seems to have any useful effect in prolonging the life of consumptive patients, though it undoubtedly adds to their comfort in certain instances by relieving the irritability of the bronchial mucous membrane. The majority of patients who are unable to take care of themselves seldom receive much benefit from a change of climate, but as a few of them do, the experiment is constantly made, more often, I think, by the friends than by the physician. Wherever practicable, even in the best cases, it would be desirable for friends to accompany the invalid, because we must not forget the necessity of maintaining the nutrition, not only by suitable food, but by cheerful environment foreign to those who, sick and lonesome, find themselves the prey of nostalgia. Before recommending a patient to change climate, we should inquire as carefully as practicable as to his disposition and social and financial condition. If he is unable to obtain the comforts and some of the luxuries of life away from home, it is generally unkind to recommend any change of climate, because the chances are greatly that it would do more harm than good. If he is despondent he should have a cheerful companion. If he is in constant terror from the bacilli floating in the atmosphere, or is depressed by the sight of sickness in others, he should be removed as far as possible from other invalids suffering from tuberculosis. Indeed, this would be a good rule in many cases, but it is hardly ever practicable, because as soon as a locality obtains a reputation in the cure of tuberculosis, many invalids are attracted thither. The physician must remember that he has a duty to others as well as to the patient, and that he must sometimes consider the healthy friends, or more particularly the widow and helpless children soon to be thrown upon the world. Hard-hearted as it may appear, the physician must then answer to his conscience whether it is right to advise the friends to make great sacrifices with the hope of prolonging the invalid's life for a few weeks or months. As a general rule, our duty is to the patient only, but this, like other general rules, is subject to many exceptions. Unhappily, it is only in the minority of cases that experts in the Eastern or Middle States are consulted as to the wisdom of a change of climate by the patients who come under their observation. The greater number come with their minds already made up to go somewhere, so that we can only guide them to the least objectionable place. This explains the fact often observed at health resorts, that the majority of patients sent away might better have been kept at home.

In conclusion, in addition to tonic, supporting and anodyne remedies various antiseptics appear to possess great value in the treatment of pulmonary tuberculosis, but in order to get good effects it is imperative that the system be as nearly saturated with them as possible. They should be given at first in small doses, but the amount should be steadily increased until the maximum dose is obtained, care being always taken not to disturb the digestive organs. For example, with the oil of cloves we may begin with five drops to be given in capsule from three to five times daily after each meal and in the middle of the forenoon and of the afternoon, the medicine always to be

followed by a glass of milk. The second day the dose should be six drops, the the third seven drops, and so on, until a dose of twenty-five or thirty drops is given each time.

Creasote can seldom be given in sufficient quantity to have any material effect, because of the disturbance of the digestive organs which it is liable to cause and because of its coagulating effect upon all albuminoids. The same may be said of carbolic acid.

Carbonate of creasote is much more bland and may be given in doses of from five to sixty drops after each meal with great benefit.

Guaiacol may be given in much the same way as the oil of cloves, though in somewhat smaller doses, but it is usually less easily borne than the carbonate of creasote or oil of cloves and often can not be tolerated in sufficient quantity. The carbonate of guaiacol may be used in much the same way as guaiacol itself, but most patients seem unable to take it in sufficient doses.

Oil of cloves and carbonate of creosote are the most satisfactory antiseptics for internal use. Iodin may be used as recommended by Shurly with undoubted benefit, but it causes considerable pain and is open to the objection that it necessitates too constant attendance of the physician; it may also be used advantageously as an inhalent.

Patients should not be sent from home unless their financial and social condition is such as to render the journey and sojourn easy and agreeable.

In the first stage of the disease patients should as a rule go to a high altitude where the atmosphere is dry and as warm as practicable. In the second stage they should be sent to a medium altitude and in the advanced stage, if sent anywhere, it should be to a low altitude.

Patients who have been improving on any course of medication should not discontinue it upon going to a different climate, but, however valuable any remedy may appear, it should not be continued if it becomes clear that it is deranging the digestion.

When sojourning in a favorable climate the patient should be out of doors as much as practicable during the pleasant portion of the day, should avoid excessive heat, excessive cold and unusual fatigue.

Of anodynes to check cough hyoscyamus, camphor, cannabis indica, strammonium and conium are of the most value, because they can generally be taken in sufficient quantities without disturbing the digestion, whereas opiates are usually deleterious in whatever form they may be employed.

The majority of patients sent from home in the latter stages of pulmonary tuberculosis are injured by the journey and their lives correspondingly shortened, though in a small percentage very great benefit is obtained in a warm and very dry climate.

Sciatica Treated by Compression of the Sciatic Nerve.—Arullani has improved upon the digital compression practiced by Negro by substituting a double pad apparatus for the fingers. He has applied it to 40 patients: 2 were improved, 6 proved rebellious, but all the rest, 32, were cured. He recommends compression of the popliteal cavity besides the point where the sciatic nerve emerges in the thigh. The general condition of the patient and the location of the pain are better criteria for the success of the measure than electric tests or the duration of the trouble. For details of the Negro method, see the JOURNAL, Oct. 3, 1896, page 765.—*Gaz. d. Osp. e d. Clin.*, February 28.

ORIGINAL ARTICLES.

THE MEDICO-LEGAL ASPECT OF FLOATING KIDNEY.

Read at the Third Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Ill., Sept. 23, 24, 25, 1896.

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The rarity of a condition makes it all the more important from a medico-legal standpoint. Cases of frequent occurrence give greater opportunity for their study and consideration. Rare cases offer few precedents and afford but occasional opportunities for observation.

Less than a year ago, I was called to testify as an expert witness in one of these rare cases, which, so far as I am able to learn, has never had a precedent, but its importance impressed me so profoundly that I feel that I owe it to the medical as well as the legal profession to briefly consider it on this occasion. Without referring to names, dates or places, I shall simply state the facts in the case and then proceed to study them from a medico-legal standpoint.

A gentleman of middle age was injured in a railroad wreck which he claimed caused a floating kidney on his right side. Beyond this his personal injuries were comparatively slight. He presented his claim to the company, which did not deny its liability as to the cause of the accident in which he claimed to have been injured, but disclaimed the responsibility of having caused the existence of a floating kidney. The company's defense was based on the fact that the gentleman had, to their positive knowledge, been affected with a floating kidney for years prior to the accident. He had consulted eminent members of the medical profession, who confirmed this diagnosis. Surgeons of high repute were called to examine him after the accident, who found him unquestionably affected with the disease in question.

The claimant admitted having had a floating or movable kidney prior to the accident, but alleged that with the use of bandages and the palliative treatment he had received, he had fully recovered and at the time of the accident was perfectly well, and that although the floating or movable kidney was the same organ that was displaced before, again loosened and was in an abnormal condition as the direct result of the accident.

It will be observed that in a trial of a case of this kind, the prosecution and the defense must depend largely on the medical evidence as to whether the claiment is entitled to damages at all and if so, to what extent. The company admitted its negligence, it acknowledged that he was injured and that he had a floating or movable kidney, but it denied being responsible for the existence of the abnormal condition; hence, it lay with the medical witnesses to show from a clinical standpoint whether it was probable for a patient to make a spontaneous recovery after having had a floating kidney for years, and if so, whether he would be as sound after such recovery, as if the floating or movable kidney had never existed. In the study of this case it becomes necessary to briefly consider the clinical features of a floating or movable kidney.

1. Its frequency. 2. Its tendency to spontaneous repair. 3. Palliative treatment for its relief.

Its frequency.—In this connection, I have been unable to obtain any reliable statistics except that a floating kidney occurs much more frequently in the female than in the male, and that in a large majority of cases, the right kidney is the one effected. For years I have been particularly interested in this subject and during that time have made hundreds of examinations for various diseases common to the abdominal cavity, and with few exceptions have I failed to examine the patient, carefully, for a displaced movable or floating kidney. I have rarely found the left kidney floating, but I have found the right kidney floating or movable in female patients very frequently, so much so that I am inclined to believe that it is much more common than it is generally supposed to be. In all the examinations I have made, I can only recall some two or three cases in which I have found a floating or movable kidney in the male. It seems to be an exceedingly rare occurrence in this sex, so much so that I feel that we are justified in saying that it is only in exceptional cases that we find it existing in the male at all.

Its tendency to spontaneous repair.—There is not a case of movable or floating kidney that has come under my observation in the male or female that has made a spontaneous recovery. In conversation with medical friends who have had experience in this class of disorders, I have thus far failed to find a single case in which there was reason to believe spontaneous recovery had taken place. In fact, if we study the pathology of floating kidney, we can not reasonably expect spontaneons recovery, for the reason that in the true floating kidney, the organ is surrounded with a meso-nephron, and hangs by a pedicle, free to move within the abdominal cavity in any direction. The anatomic relations of the kidney with the peritoneum are such that when it has a meso-nephron, the peritoneum has been displaced to such an extent as to form a capsule, which even the most expert operator is unable to replace. This, being the fact, it is unreasonable and impractical to expect spontaneous recovery.

A movable kidney is distinguished from a floating kidney from the fact that it does not have a meso-nephron, but is free to move underneath the peritoneum, which it dissects from the lumbar muscles, and when once loosened, permits the kidney to move to and fro underneath it like a shuttle.

A displaced kidney may be congenital or post-natal. I recall a case of displaced kidney which I observed a few days ago in an abdominal operation. In this case the kidney was very much distorted and located just over the promontory of the sacrum. The patient had never complained of any pain or trouble with the kidney and had it not been for an operation for the removal of the ovaries and uterus it is quite probable that no one would have been the wiser. In considering a displaced kidney, we shall not include those of a congenital origin, but simply, where it has by some external force been displaced and lodged in another part of the abdominal cavity and anchored there by inflammatory adhesions. The tendency to sponstaneous recovery in cases of this kind is not very flattering, and I am frank to say that in my experience I have never had the pleasure of seeing a case in which such displacement existed and spontaneous recovery took plaee. From these few observations I am led to believe that any one of these conditions may be tolerated by the patient,and the kidney and the surrounding structures may so accommodate themselves to their new environments as to relieve the patient from pain to such an extent that he may apparently recover his normal health; as a rule I do not believe that this is true but, on the contrary, I have found in these cases a general tendency on the part of the majority of patients, at least, to get worse. If not troubled with actual pain, they become nervous; their digestive system is disturbed as well as the functions of the kidney itself, which, of necessity, sooner or later lead to grave systemic complications.

Palliative treatment for its relief.—The palliative treatment which has been recommended for years in our text-books for the relief of floating or movable kidney is in my judgmeut worse than useless. I am not insensible to the fact that our best writers recommend the use of bandages and compresses for the treatment of this disorder, but why they should recommend such treatment is beyond my comprehension, except that somebody who wrote a book sometime before had recommended such a thing and like the traditions of old, it has been handed down from one generation to the next. Certainly there is no logical reason for the use of bandages and compresses in the treatment of floating kidney. If you stop a minute and study the anatomy of the human body you will readily see that no bandange can be placed over the abdomen with safety to the adjacent structures that will have the slightest influence in holding the kidney in its place. It is only necessary for you to cut a cadaver in two, crosswise on a line with the kidney, and you will see at once that the kidney is not *only* protected by the ribs posteriorly, laterally and even anteriorly, but it is also guarded by the vertebræ, which in the majority of cases project beyond the level of the kidney so that if it were practical to bandage a patient so tight that the bandage would rest on the anterior portion of the spinal vertebræ it would not be sufficiently tight to hold the kidney in its normal position. It is only necessary to examine an articulated skeleton to demonstrate this for yourself, when it will be evident how utterly absurd it is to expect beneficial results from this method of treatment. But I amagine I hear some one say that this can be overcome by compresses. Admitting that you can make a compress that will fit down between the ribs and spinal vertebræ so as to make pressure on the kidney, I defy you to hold the kidney in place with any such compress, without injury to the adjacent structures as well as the kidney itself. Worthy Fellows of the Academy, in summing up these observations, I want to call your attention to the fact that a movable or floating kidney in the male is quite an unusual occurrence; that the tendency to spontaneous repair is exceedingly rare; that the palliative methods heretofore advised and used for the treatment of this condition are anatomically and physiologically impractical.

Legal aspects.—To properly consider the legal aspects of a movable or floating kidney it is necessary for us to consider, as we have already done, the clinical conditions which exist in these cases. The legal responsibility depends largely on circumstances, and circumstances are usually the offspring of facts. In studying this part of the subject we shall divide it into three divisions. 1. In acute diseases. 2. In chronic cases. 3. In alleged spontaneous recoveries.

The legal aspects in acute cases.—The legal aspects in acute cases of movable or floating kidney depend entirely upon the legal responsibility of the company.

If a claiment has, without any fault of his own, been the victim of an accident, which accident had been entirely the fault of the company and as such has resulted in an acute case of movable or floating kidney it would only be necessary to show that these were the facts in order to establish a claim against the company. The defense would not be justified in setting up the claim that the party may have had a predisposition by reason of general disability, to a displacement of the kidney, because it is presumed it will use every reasonable precaution against injuring any of its patrons whether they be in enfeebled or of robust health.

The legal aspects in chronic cases of floating or movable kidney.—While the company may be responsible to a claimant for injury by reason of an accident, such responsibility is not lessened so far as the company is liable for negligence, but it is lessened by reason of the fact that a diseased condition existed prior to the accident and may have been exaggerated by the accident; but not in fact a primary result of said accident, hence the company should not be held responsible in a case of this kind to the same extent it would be held responsible in a case where no such chronic condition existed.

Allow me to illustrate. A few months ago I was called as an expert witness in a case that was being tried before the United States court, in which it was shown beyond dispute that the claimant had suffered from tuberculosis of the hip joint in childhood and had been treated for the same for years, finally recovering sufficiently from the disease to do a certain class of manual labor but leaving him a confirmed cripple. Outside of this crippled condition his general health appeared to be normal. He was riding in a sleeping car on one of the trunk lines of Ohio when a very trivial accident occurred causing a sudden stoppage of the train, but being in the sleeping car riding with his head toward the engine, he suffered no visible injury whatever, did not know what happened until he got out of the train and made inquiry, after which he went back into the car, went home, and some days afterward complained of his old trouble; was taken down a few weeks later with suppurative morbus coxarius in which there was multiple infection. The abscess was opened by a competent surgeon but the patient died of pyemia and the company was sued for $10,000 damages. In the trial it was shown that there was a head-end collision, which, of itself, held the company without any further evidence of negligence. It also developed that the claimant had suffered from hip-joint disease long before the injury, and although he had for the time being apparently recovered, yet he was predisposed to its return. The expert witnesses for both the prosecution and the defense confined themselves to scientific and clinical facts rather than taking sides in the case. The attorneys for both plaintiff and defendent, who were among the most able counsel in the State of Ohio, showed a remarkable disposition to get at the real facts and place them fairly and squarely before the jury, which was one of more than ordinary intelligence.

In summing up the evidence brought out in the trial, it showed that a party who had suffered from hip-joint disease prior to any accident had a predisposition to the return of the disease, and hence, a very slight injury that would not affect a healthy person in the least, might result in the return of the tubercular trouble and to that extent the defendant was not liable for damages.

As a legitimate result the jury rendered a verdict accordingly, giving the administrator a few hundred dollars instead of several thousand.

From this I observe that it is only fair and reasonable to assume that where a floating kidney existed prior to an accident, that the defendant in an action for damages is not responsible for its existence, although it may have exaggerated its condition, and hence should only be held liable for such injury as is clearly shown to be the direct result of the accident.

Legal aspects in alleged spontaneous recovery.—If a claimant has suffered from a floating or movable kidney and alleged to have recovered from such abnormal condition, received an injury in which he assumes to have had a return of his former trouble, and on account of return of said condition claims damages, it becomes necessary for him to show, beyond a question, that he had fully recovered from his former diseased condition and to show that his present abnormal condition was wholly due to negligence on the part of the defendant and in no wise the result of the former diseased condition before he is entitled to damages for the same.

In conclusion, it has been my experience that the disposition to spontaneous recovery with or without palliative treatment, in cases of floating or movable kidney, is not warranted by clinical observations. This being the fact a jury is not warranted in awarding the same damages to a claimant as if the whole injury had been caused by the accident, although he may allege to have recovered from his former adnormal condition prior to the accident, but they may award such damages as the evidence shows was the direct result of the accident.

68 Buttles Avenue.

DISCUSSION.

Dr. GALBRAITH—Mr. President and Gentlemen of the Academy: I desire to compliment the Doctor upon his courage in selecting so unique and unsatisfactory a subject for a paper. In the first place the difficulty in making a diagnosis of a floating or loose kidney is readily understood by every member of this Academy. Again, the subject being so unusual that in the doctor's description he has not cited or brought to our notice a case of a loose or floating kidney either so as to speak of idiopathic or traumatic case but has confined entirely those conditions to females. We can readily and in a measure understand that the exciting cause of floating kidney in females is the result of tight lacing, and as the doctor mentioned it is invariably confined to the right side; in connection with crowded and depressed viscera you do occasionally find this condition in a female from this cause. That we should select or bring up a case for discussion of so unusual occurrence struck me as of little benefit either for ourselves or for our companies. I am afraid we are running too much into peculiarities, idiosyncrasies and unique ideas that will not only cause comment from our superior officers but from the public at large. In nearly all the railway meetings of the last two or three years I have attended there have been something new as the result of alleged traumatism. Now as regards the medico-legal aspect and treatment of floating kidney, I doubt if we would be justified to the extent of the heroic and mutilating methods that are advised. In the first place the Doctor has not cited, as trauma or the results, a case that has been approved. I failed to note anything of that kind in his paper. Now we have the palliative treatment; our text books say we will apply a bandage and compress, and in the case of a loose kidney as the result of trauma we have a dozen or more text books stating positively that to apply a compress and bandage is the principal thing. In this the Doctor takes exception to the authori-

ties. Now then are we justified in proceeding to perform an operation that the Doctor has very well and satisfactorily demonstrated? Is that protecting our company, or do we as individuals assume the responsibility of so heroic surgical interference?

Dr. E. WYLLYS ANDREWS—I would like to ask Dr. Reed whether it is not true that perhaps the majority of our cases of floating kidney are accompanied by disease of the organ, of course producing an enlargement, hypertrophied condition or dilatation; that the bandage with an exceedingly large kidney is of use? While it is anatomically true that no force can be exerted on a normal sized kidney, may it not be true that a movable large kidney can be restored and the pain somewhat diminished by a soft compress?

Dr. LEMEN—I would state that my experience with the bandage has certainly given more or less relief in floating kidney, as Dr. Andrews says allowing for an enlarged kidney but especially in a relaxed abdomen; anything that will give support to the abdomen will more or less support the contents therein, and I have had several cases that had a great deal of relief by simple abdominal support. It did not cure the trouble, but acted as a simple palliative measure to relieve the distress as a truss.

Dr. OWENS—I beg to differ with my friend (Dr. Galbraith) in reference to the importance of the subject. The gist of the paper is this: That given a case of floating kidney, or a kidney that is capable of being displaced, and a railroad accident where it could be afterward shown that a displaced kidney existed, and then the evidence comes in that displacement of the kidney once existed and offered in evidence—may be shown from professional standpoint that such displacement did exist but that it had been cured by a bandage and that the jar or shock had displaced it—the question comes, is it possible to cure a floating kidney or displaced kidney by a bandage? I must say I am in full accord with the paper. The kidney may have general support by means of the bandage and it will be helpful and comfortable more or less, but in no sense is it cured. And we ought to be able to show sooner or later that it is not possible to cure a floating kidney and hold it there till it remains fixed in a healthy state by means of the bandage. I did not see anything in the paper that urged an operation, but the plain question is whether we can cure a displaced or floating kidney by means of the bandage, and if we can not we ought to be able to show that such is the fact. I have one case in mind on the Northwestern in which a girl was injured and she had complained of various ill-defined symptoms; she passed through the hands of one or two and finally an expert diagnosed a floating kidney and operated, and it was claimed she was entitled to damages. I think from a medico-legal standpoint the position taken by the writer of the paper is very correct and will be sooner or later recognized.

Dr. RANKIN—It seems to me the most important question is, are we forced to admit that trauma can produce floating kidney? There is such close sympathy between all these organs—they have a common peritoneal covering with the entire viscera—and these organs, with the kidneys, vary so much that it seems to me that we have not sufficient proof that trauma is the cause of floating kidney at all. It is certainly very difficult for me to understand how it could; anything that would displace the kidney would bring on inflammatory reaction around the kidney, which would have the reverse action—make it stick instead of float. Can we under our present state of knowledge admit that trauma can produce floating kidney at all? I doubt it very much.

Dr. HARNDEN—One well authenticated case came under my notice. A woman had been treated for some years for floating kidney by compresses; she was better in health and it was claimed she had been cured. She was taken sick something like a year after the supposed cure had taken place and her case was diagnosed then as an aneurysm, and she went from bad to worse till she was in a hopeless condition. I was called in consultation to see her and I pronounced it floating kidney. She died something like two weeks after that time; an autopsy was made and it was found it was floating kidney and there was no indication of cure in the case; the kidney, like a shuttle, passed about in every direction, and it seems to me the limited description of the kidney and its attachments would bear out the idea that it could not be cured by any such means. It seems to me, an application made through the abdominal tissues and surrounding tissues would be utterly futile in holding in position the kidney. And furthermore I think it is about on a par with the treatment of hernia; when the kidney has lost its attachment, the pedicle has become elongated. I do not believe there is anything that will cure it but shortening the pedicle and tying it up.

Dr. HAWES—I have known a great many cases of floating kidney that were alleged to be very much improved by bandages and trusses and quacks, and for all that, notwithstanding the testimony that has been adduced in their favor I am strongly inclined to the opinion it was not in a majority of the cases a disease of the kidneys so much as a disease of the imagination. There is a large per cent. of the cases where floating kidney is alleged to be found, as we know, in hysteric women, and if we were able to make an exact diagnosis and able to see the exact results of our treatment without being able to give any reasons except such as had been satisfactory to me and the result of observation in the past, I should feel strongly inclined to believe the very respectable per cent. of such cases was discomfort arising from the imagination rather than from the kidney.

Dr. GALBRAITH—Before closing, permit me to say, if memory serves me right upon the literature of this subject, it fully concurs with the evidence we have had here as regards it being almost invariably found in women. I further doubt, as already stated, that there is in this Academy or in this city a case of floating kidney which can be postively proved beyond doubt due to trauma. If that were the case—that such conditions could result from trauma—stop and think, nearly 200 men are injured on the railroad to one woman, and I fail to discover, either from the evidence here or from the text books I can think of, a case where this condition has been alleged and damage proceedings brought against the railroad for this condition in men. Now then we do perform operations successfully for the anchoring of the kidney, but in alleged floating kidney the results of an injury to an employe or a passenger upon a railroad, are we justified in resorting to those methods which the Doctor has described and the text books describe, to cure the condition? I doubt it. I doubt if we would be using proper judgment in resorting to anything of an operative character. As to the medico-legal aspect of assuming responsibility of these cases I am not prepared to remark, but in my judgment we would be to a greater or less extent responsible for the direct result of this operation. In reviewing this subject I find that the text books merely mention the fact that it may be the result of trauma—that is very unsatisfactory (laughter), it is like a great many other subjects in our text books, very unsatisfactory indeed.

Dr. LEMEN—Why would you [Dr. Galbraith] hesitate to operate on a floating kidney that was the result of trauma, any more than on hernia that was the result of trauma?

Dr. GALBRAITH—I think I have made that very plain, that the moment we perform the operation for traumatic floating kidney we are confronted, as the author of the paper says, by a dozen or more text-books stating that the bandage, compress and various appliances are recommended.

Dr. REED—I am very sorry our distinguished friend, Dr. Galbraith, "got off the eggs on to the straw." My paper did not consider the question of anchoring the kidney, did not consider it

as coming in this discussion at all; and furthermore, I did not say in the paper that there was such a thing as traumatic displacement of the kidneys; the question is asked whether I ever knew of one—I think I can cite several cases which I have every reason to believe were traumatic. One case of a young girl in this city, lifting a bucket of coal, and as she said, something gave away in her right side, she felt sick and faint, was placed in bed and was an invalid—that was not imagination. Having been a citizen of Columbus she came home, and was brought to me by her family physician; an examination was made and I could very easily, as she was a thin, spare girl, move that kidney from the bottom of the pelvis under the edge of the ribs, a distance of three or four inches, as plain as anything. I made an operation for anchoring the kidney. Two years ago the lady was brought to me with an ovarian tumor and I made another operation—thought I, this is my time to examine the kidney and see whether it is fast or not; because we had a distinguished member of the profession who said the kidney was loose again, and I was more than interested because my operation was challenged. I made that examination, and the kidney was fixed in its normal place. That was a case where lifting occasioned the injury, a floating kidney was found, it was operated on, it got well, and it seems to me that is conclusive that we have such a thing as traumatic floating kidney. In another case a young man playing ball was struck in the abdomen, was taken with severe pain immediately afterward, and from that day to this has never been well, though he was the strongest young man in that section of the country. But on examination you can find the lump in the right side, that can be slipped up and down a distance of two or three inches, and I believe is a floating kidney, the result of traumatism. I can not prove this matter any clearer, but however, let that be as it will, it does not enter into this discussion of the medico-legal aspect of the paper, because here comes a man who was injured on the railway; he admits having a floating kidney, but claims to have been cured of this and now comes up to the company and gets $12,000 damages, and gentlemen, dare we stand and ignore these facts, if they are facts? Twelve thousand dollars is pretty rare; I would not want to pay it, nor have my company pay it unjustly. The fact is that these cases come to us, we must study them and, as I said in the beginning of the paper, because they are rare, it catches us unprepared, and when this case was tried there was very little testimony that could be gotten at. Further than that, we find the text-book, as I have already said, is absolutely useless because it is false—I do not believe he ever was cured and I do not believe he was entitled to damages. That is the reason I bring this out, and it seems to me it is fair and just and reasonable. Dr. Andrews' suggestion with reference to an enlarged kidney; of course, in an acute displacement of the kidneys in case of congestion we may have hydronephrosis, but generally there is no enlargement in the cases that I have examined; I could not detect any enlargement, but I could move the kidney several inches. But if enlarged I admit the use of the bandage, but I deny that it cured them, and that is the point in law, because the law says they must have been absolutely cured to receive any damage. I want to reiterate, you can not by this treatment cure these cases, and hence, if you can not cure them, they have not a right to damages. The same argument that I have just given you I think obtains as to the matter of imagination. I admit we may have an imaginary tumor and other things in the abdominal cavity, but I do think there is a question in the world but what we have floating kidneys, and if we have floating kidneys from any cause whatever, then my paper holds good, and the case as brought before the company holds good as a possibility.

Dr. COLE—In those cases occurring suddenly what is the history with reference to the acute constitutional disease?

Dr. REED—The history is prostration, faintness; they speak of it as an all-gone feeling, whatever that is like; they feel as if something dropped away from them, and if they stoop it gives them pain; on lifting they feel a dragging pain in the right side; I believe I never saw but two on the left side. One case passed bloody urine after the accident, another I did not observe and could not say.

Dr. GALBRAITH—I think my colleagues will fully concur that what I say is the fact, that the great difficulty in making a differential diagnosis between floating kidney and diseased conditions of other parts of the viscera of the abdominal cavity, and I wish to cite one case where my colleague and the author of this paper, with other very able gentlemen, was called in consultation by me to examine a case of abdominal tumor beyond any question of doubt; they were satisfied, as well as myself, that we had a floating kidney—the floating kidney proved on examination under anesthesia to be gallstones. I removed seventy or eighty gallstones from the gall-bladder.

ON THE TREATMENT OF DIABETES MELLITUS BY A DIET FROM WHICH ALL CARBOHYDRATES HAVE BEEN EXCLUDED.

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Since diet has always played such a prominent and supposedly essential part in the treatment of diabetes mellitus a general discussion of this subject may be of interest, the more especially as there has apparently been of late an under-current of thought to the effect that possibly the complete exclusion of carbohydrates from the diet might not be an unalloyed blessing to the diabetic. The writer hopes to show in this paper, both from careful personal observation of a typical case of diabetes as well as the quoted experience of others upon the salient points, that a diabetic should be placed under no different conditions of diet than are granted the healthy individual and that a rigid exclusion of carbohydrates from the diet is productive of abnormal metabolic changes which result in not only progressive emaciation and weakness, but also in the production of various toxic bodies to which the severe cerebral symptoms of this disease are to be attributed.

I. SUGAR IS ALWAYS PRESENT IN THE BLOOD.

Physiologically.—"Glucose is always present in the blood in quantities varying from 0.1 to 0.15 per cent." (Landois, "Lehrbuch der Physiologie des Menschen," p. 59). "The normal proportion of sugar in the blood does not, as a rule, go up as high as 1 per cent., although it may vary in different individuals" (Cohnheim, "Vorlesungen ueber allgemeine Pathologie," p. 97). "Sugar is a normal extractive of the blood" (Foster, "Text-book of Physiology," p. 50). "The amount of blood sugar remains about the same even during starvation" (Abeles, *Wiener med. Jahrberichte*, 1875, No. 3).

The following tables of Seegen (*Archiv f. d. ges. Physiol.*, 37, 348–369) show that sugar is always present in the blood irrespective of various diets or fasting.

	Carotid Blood. percentage.	Portal Blood. percentage.	Blood in Liver Veins. percentage.
Fasting (8 exp.)	0.157	0.147	0.260
Starch Diet (9 exp.) . .	0.150	0.144	0.261
Sugar Diet (6 exp.) . .	0.165	0.186	0.265
Dextrin Diet (4 exp.) .	0.176	0.256	0.320

In Diabetes.—"Diabetes is an abnormal increase in the blood sugar" (Cohnheim, *op. cit.* p. 97). "The elimination of sugar in diabetes does go down considerably in diabetes during a prolonged fast but is

always present in appreciable quantity" (Mering, *Tageblatt der 49 Naturforscherversammlung in Hamburg.*) "In diabetes there is a large increase in the blood sugar" (Landois, "Physiologie des Menschen," p. 73). Quantitative determinations have been made upon this point by Külz (*Archiv f. exp. Path. u. Pharm.* VI, p. 140); Mering (*Zeitschrift f. prak. Med.* 18 and 20, 1873), Kratschmer (Voit's "Stoffwechsel Physiologie," p. 230) and many others. It is evident, since the presence of sugar is so diagnostic of diabetes, that further discussion of this point is unnecessary. The occurrence of sugar as a constant constituent of the blood in health and disease has been repeatedly demonstrated.

II. THE ELIMINATION OF CARBOHYDRATES FROM THE DIET DOES NOT CAUSE A DISAPPEARANCE OF THE BLOOD SUGAR.

Physiologically.—"The quantity of blood sugar remains the same even if a diet free from carbohydrates is taken" (Cohnheim, "Vorles. ü. allgem. Path." p. 93). Bödeker (Landois' "Physiologie," p. 458) found glucose in the urine of healthy individuals on placing them on a diet composed exclusively of meat and chondrin. "Experiments on animals have shown that if an exclusive meat diet or proteid diet, as fibrin, be administered over a considerable length of time, a certain quantity of sugar and glycogen can always be detected in the liver, muscles and blood" (Foster, "Text-book of Physiology," p. 717). "If animals are subjected to a long course of starvation there is a decrease but no disappearance of the blood sugar, the animal invariably dying before such a result can be brought about" (Foster, *loc. cit.*). "During prolonged fasting sugar does not disappear from the blood." (Landois, "Physiologie des Menschen," p. 322). "The quantity of sugar after long starvation remains the same, although the liver glycogen disappears" (Cohnheim, "Vorles. ü. allgem. Path." p. 95). Mering (*Cent. f. d. Med. Wissensch.* No. 53, 1887) has also found that if a dog be starved his blood still contains sugar although the liver and muscles yielded no glycogen.

In diabetes.—In the case experimented on by the writer a strict proteid diet maintained during a period of several months never caused the disappearance of sugar from the urine but the sugar excretion for many months was constant at about 6 per cent. Mering (*Zeitschrift f. prak. Med.* Nos. 18 and 40, 1887) found 39.8 gm. of sugar in the urine of a diabetic who had lived on proteids only for fourteen days. Külz also found that a diabetic, following the ingestion of 300 gm. of casein, free from fat and sugar, excreted under this diet an average of 81 gm. of sugar (*Arch. f. exp. Path. u. Pharm.* VI, 140). It was also found by Kratschmer (*Sitzungsberichte d. k. Wien. Akad.* Bd. 66, 1872) in a large number of experiments that the sugar excretion was still maintained even on a strictly proteid diet, some patients excreting 112 gm. or more during the twenty-four hours. The same writer (Voit's "Stoffwechsel Physiologie," p. 230) records an instance in which a diabetic excreted 62 gm. of sugar without taking food of any sort for thirty-six hours. Voit and Pottenkofer (*Zeitschrift für Biologie*, III, 398) also report a case of diabetes in which there was a sugar excretion of 52 gm. although no food of any kind had been allowed for thirty-six hours. Sugar appears in the urine of rabbits and dogs in starvation following the administration of phloridzin. The above instances, like the practice of nearly every physician, show that in advanced cases of diabetes neither the exclusion of carbohydrates nor even abstinence from all foods whatever can cause the disappearance of or greatly reduce the sugar excretion. It is evident, then, that the source of the excreted sugar must be sought for elsewhere than in the carbohydrates ingested.

III. SUGAR IS PRODUCED FROM THE INGESTED AND SYSTEMIC ALBUMIN.

In health.—"Sugar is probably produced from proteid decomposition in some part" (Foster, "Text-book of Physiology," p. 724). "The organism has the property of forming sugar out of albumin, probably by the splitting up of the latter into glycogen, which is then converted into sugar" (Cohnheim, "Vorles. ü. allgem. Path. p. 106). "The manufacture of sugar is merely a product of healthy metabolism" (Voit, "Handbuch der Phys. des gesammt. Stoffwech." p. 228). "A source of sugar is found in the fats and albuminoids" (Landois, "Physiologie des Mensch." p. 324). "The largest part of the animal diet is converted into sugar. At least two-thirds of each part of albumin consists of carbohydrates, that is, yields carbohydrates" (Seegen, Landois' "Physiologie," p. 324). "Proteid material in giving rise to urea throws off somewhere in the body a large quantity of a carbon containing radical in some combination, since the proteid contains far more carbon than is needed to unite with the nitrogen to form urea. This carbon has a tendency to appear in the form of fats, but it may be supposed that it might, as a preliminary process, take on the form of sugar. It may further be supposed that the sugar is formed from proteids not in the liver but in some other tissue, as muscle. In such a case the hepatic glycogen may be formed by a dehydration of the sugar manufactured elsewhere and brought to the liver by the portal blood" (Foster, "Text-book of Physiology," p. 724). That sugar is formed from the systemic albumin is shown by previous references in which it is seen that the sugar did not disappear from the blood even on prolonged starvation. It is evident that in such cases the sugar excreted must have been a product of the decomposition of the tissue albumin.

In diabetes.—The fact that sugar is produced from albumin in diabetes is abundantly proven by the many cases already quoted in which the sugar excreted could have had no carbohydratic source. It is a notorious fact that many cases of diabetes, from the diet of which all carbohydrates have been carefully excluded, still continue to excrete considerable quantities of sugar. In the case studied by the writer, under a rigorous proteid diet, there was never an entire disappearance of the sugar from the urine.

SUGAR COMES FROM INGESTED ALBUMIN.

"There are some cases of diabetes which continue to excrete large amounts of sugar even if kept on an exclusive albumin diet (Mering, *Zeitschrift f. prak. Med.* 36, 1872). Külz (*Arch. f. exp. Path. u. Pharm.* VI, 140) finds, according to the following tables, that the increased ingestion of albumin causes an increased secretion of sugar. He gave as diet casein free from fat and sugar.

EXP. I.

Casein.	Urine Excretion.	Sugar Excretion.
200 gm.	4,180 c.c.	79 gm.
240 gm.	4,100 c.c.	70 gm.
300 gm.	4,950 c.c.	87 gm.
300 gm.	6,420 c.c.	137.1 gm.

EXP. II.

Casein.	Urine Excretion.	Sugar Excretion.
200 gm.	4.460 c.c.	66 gm.
240 gm.	6.140 c.c.	65.7 gm.
300 gm.	6.620 c.c.	96.7 gm.
500 gm.	7.210 c.c.	126.9 gm.
240 gm.	5.250 c.c.	86.6 gm.

"A diabetic who lived on an exclusive meat diet for fourteen days and then fasted thirty-six hours, eliminated during the last twenty-four hours sugar amounting to 34.15 gm. During the next twenty-four hours the patient ingested 300 gm. of casein, free from fat and sugar, and also one liter of meat broth. The sugar excretion for that twenty-four hours amounted to 61 gm. The patient had therefore manufactured 26.85 gm. from the ingested albumin. . . . In another case, in which the sugar excretion was considerably diminished after a fast of thirty-six hours, a marked increase was at once noticed upon the ingestion of coagulated egg albumin" (Mering, *Zeitschrift f. prak. Med.* 40, 1873).

SUGAR IS ALSO PRODUCED FROM THE SYSTEMIC ALBUMINS.

"A diabetic patient kept without food of any kind for thirty-six hours was found to excrete 34.15 gm. glucose" (Mering, *loc. cit.*). "Sugar does not disappear from the urine on fasting" (Block, *Deutsch. Arch. f. klin. Med.* 25, 1880, 470). "The elimination of sugar is often considerably decreased during prolonged fasting, but is always present in certain quantity" (Mering, *Tageblatt der 42 Naturforscherversammlung in Hamburg*). "On fasting thirty-six hours a diabetic excretes 52.1 gm. of sugar" (Voit and Pettenkofer, *Zeitschrift für Biologie*, 3, 383).

From the above observations it is seen that blood sugar is produced from albumin, both ingested and systemic, in health and diabetes. In diabetes there is an excess of the production beyond the consumption and the unoxidized portion is eliminated in the urine. Fats, ingested or systemic, can not be considered as the source, since even the most emaciated diabetic, restricted to a diet of albumin or even fasting, will still excrete a certain amount of sugar. This excessive production of sugar from the systemic albumin by metabolic changes can have but one result—more nitrogen is eliminated as urea than is taken in as nitrogenous foods and a progressive loss of body weight is consequent.

IV. THE EXCESSIVE ALBUMIN DECOMPOSITION, DUE TO THE RIGID ENFORCEMENT OF A NITROGENOUS DIET, INDUCES AN INCREASED METABOLISM AND LOSS OF BODY WEIGHT.

In health.—"A man is not able to keep up the equilibrium of his metabolism with pure meat. If obliged to do so he very soon dies. The reason is easily seen. In beef the proportions of the nitrogenous to the non-nitrogenous food-stuffs is as one to one and seven-tenths. A healthy man gives off in the CO_2 of expiration, feces and urine about 280 gm. of carbon daily. If he should take these 280 gm. of carbon out of the carbon of a purely meat diet, he would be obliged to digest and assimilate during each twenty-four hours over two kilos of meat. To accomplish this task the digestive organs of the man are by no means competent. The man would then, under these conditions, be forced to ingest less meat, but this would necessarily mean a supply of the needed carbon from his own bodily tissues, at first from the fats and then from the albuminoids. A purely albuminous or proteid diet would act in the same way" (Landois, "Physiologie des Menschen," p. 457). It has recently been shown by Lusk ("Ueber den Einfluss der Kohlehydrate auf den Eiweisszerfall," 1891) that a healthy individual, subsisting upon a purely nitrogenous diet, excretes more nitrogen in the form of urea than is taken in as food, which nitrogenous food, if mixed with carbohydrates, was entirely able to maintain the normal weight. Such an abnormal excretion of nitrogen must, of course, be the result of excessive decomposition of the tissue albumin, and must cause a progressive loss of body weight. Lusk comes to the conclusion that carbohydrates prevent a certain amount of albumin decomposition. If the metabolic equilibrium is destroyed by excluding carbohydrates from the diet the decomposition of the tissue albumin runs in excess of its formation. Voit (*Zeitschrift für Biologie*, 140, 144) has shown by the following experiment that if a certain amount of carbohydrates be supplied, whether albumin be withheld or allowed, a considerable decomposition of the systemic albumin is avoided. In a dog, which needed 850 gm. of meat to support his system, when under a rigid proteid diet, it was found that 500 gm. were sufficient, if small amounts of carbohydrates were supplied, thus saving a decomposition of 350 gm. of meats.

The following table, taken from Lotze ("Allgemeine Path. u. Ther.") shows the great increase of metabolism induced by a purely nitrogenous diet as compared with the metabolism under either a non-nitrogenous or a mixed diet. It gives the urine constituents in health, under various diets, for twenty-four hours.

	I. Non-nitrogenous Diet.	II. Mixed Diet.	III. Nitrogenous Diet.
Total solids	41.680 gm.	67.820 gm.	87.440 gm.
Urea	15.408 gm.	32.498 gm.	53.198 gm.
Uric acid	0.735 gm.	1.183 gm.	1.478 gm.
Lactic acid	5.276 gm.	2.625 gm.	2.167 gm.
Extractives	11.894 gm.	10.508 gm.	5.145 gm.
Sod. phosph	——	3.673 gm.	5.421 gm.
Earthy phosph	——	1.097 gm.	3.562 gm.
Alkal. sulph	——	7.026 gm.	10.399 gm.

In this experiment animal diet in III consisted entirely of egg albumin, which contained daily 30.16 gm. of nitrogen, of which an average of 25.623 gm. were again excreted as urea. This table shows that an increase in the ingestion of albumin, rendered necessary if the carbohydratic source of carbon is cut off, results in an increased metabolism in which nitrogen is produced in far greater quantities than the system can utilize, the excess of which must be excreted as a waste product.

In diabetes.—In the case experimented on by the writer, a removal of all carbohydrates from the diet immediately induced an enormously increased appetite, while, on a return to a mixed diet, there was a diminution of the appetite; showing that the patient craved and decomposed more food while on a proteid diet than when allowed carbohydrates in moderation. As to body weight, this patient lost sixteen pounds between the time when a polyuria appeared and the restriction of the diet to proteids, a period of about six months. During the first four weeks following the restriction to proteids, this patient lost fourteen pounds, and there was a constant decrease in weight as long as the treatment with proteids was maintained. Further, on a return to a mixed diet, there was an immediate gain in weight, and in three weeks there was an increase of eight pounds. The patient was steadily gaining in weight until his death.

Cohnheim ("Vorlesungen ueber allgemeine Pathologie," p. 110) finds that "the quantity of urea excreted by a diabetic is enormous, often going as high as 150 gm. in the twenty-four hours. This may be explained by the large amount of meat which the diabetic usually ingests. The body in this way is able to keep up itself to the necessary carbon and albumin; but the progressive emaciation of diabetes shows that he is only able to keep this up for a certain time."

According to Voit and Pettenkofer (*Zeitschrift für Biologie*, 3, p. 419) "large amounts of meats and fats (in diabetes) were not sufficient to keep up the body, since the body weight decreased," etc. In a series of experiments made by the same authorities, large amounts of albumin were given with very little carbohydrates, only in milk and beer. The food contained 1590 gm. meat and 168 gm. fat. Of this large amount of meat 1364 gm. were taken into the blood. Of this quantity 1287 gm. were decomposed and excreted and only 48 gm, were stored up. The body weight decreased 201 gm. and the urine contained 397 gm. of sugar. The tables given in the same reference (p. 388–398 and 392–394) also corroborate the above.

All authorities agree with the above quotations, which show that the more albumin is ingested, the more urea is excreted from which it follows that an excessive ingestion of albumin induces increased metabolism. It is also shown that in spite of this increased ingestion of albumin the larger part is excreted unused, the patient constantly decreases in body weight and only a relatively small proportion of the nitrogen ingested is stored up in the system. Since the patient is unable to absorb sufficient albumin he abstracts it from his own body.

V. THE ADMINISTATION OF CARBOHYDRATES RETARDS ALBUMIN DECOMPOSITION.

It has been shown by Hirschler (*Jahrsberichte der gesamm. Med.*, 1889) that proteids allowed to putrefy and decompose in the presence of a carbohydrate or a carbonate do not yield as many or as much of putrefactive and decomposition products as when decomposing alone. He therefore recommends carbohydrates to retard excessive intestinal decomposition and systemic metabolism. The results arrived at by Voit (*Zeitschrift für Biologie*, 3, 140–144) and Lusk ("Ueber den Einfluss der Kohlenhydrate auf den Eiweisszerfall," 1891), which have been already quoted in this article, seem to confirm this theory of Hirschler's, with regard to the power of carbohydrates in retarding metabolism. According to Landois ("Phys. des Mensch.," p. 459), "while on a purely meat diet, to maintain the body an enormous amount is necessary, while a much smaller portion is sufficient on the addition of fats or carbohydrates. For 100 parts of fat which are added to the meat 245 of dry meat can be saved. If, instead of fat, carbohydrates are used, 100 parts of fat are equal to 230–250 of the carbohydrates. On an insufficient supply of dry meat the addition of fats or carbohydrates still causes a diminished decomposition of the bodily material, and if very large amounts of meats are ingested with carbohydrates the body weight is still more increased than without the latter. The body, in this last condition, takes on more fat than flesh." Ephraim ("Diss.," Breslau, 1885) found that an acetonuria accompanied by an increased metabolism follows the exclusion of carbohydrates from the diet of healthy persons. This acetonuria with its increased metabolism disappears if carbohydrates are again administered. The tables of Lötze, already quoted, also show that the exclusion of carbohydrates from the diet induces an increased metabolism. Duprè (*Practitioner*, 1871) found that in a certain case of diabetes, if considerable amounts of honey were added to the usual diet of the patient, the quantity of urea was greatly diminished. The diet of this patient was gluten bread and meats. It has been found by Voit and Pettenkofer (*Zeitschrift für Biologie*, iii, 398) that the urea excretion of a diabetic in hunger is much greater than when carbohydrates are allowed, showing that under the administration of carbohydrates a lessened breaking down of the systemic albumin takes place. Their results are as follows:

	Fasting.	Carbohydrate diet.	Mixed diet.	Albumin diet.
Urea	28.5	19.4	48	62.4
Sugar	52	429	464	149

Ebstein (*Schmidt's Jahrbücher*, 1884, Bd. 204, S. 65) always found the ferric chlorid reaction associated with an increased metabolism as shown by the excretion of urea. He also found if a certain amount of carbohydrates be administered that a certain amount of metabolism is avoided and the ferric chlorid reaction disappears. It was found by Rossbach (*Corresp. d. allgem. ärztl. Ver. f. Thuringen*, 1887) that on placing a diabetic on a meat diet there is a lessened sugar excretion but a much greater metabolism. If this patient is now placed on a mixed or carbohydratic diet a great diminution of the metabolism occurs. In the same way, if a patient be given no food at all for a certain length of time and then be given carbohydrates, it is found that the metabolism is very greatly decreased upon the administration of the latter. If a diabetic has not entirely lost the power of oxidizing sugar, as will be shown in this paper, it is evident that a certain amount of glucose can still be used in the system. If such a quantity of sugar be supplied to the organism in some carbohydratic form it is evident that the amount of albumin decomposition, by which this quantity of sugar, which is so essential to the maintenance of health, can be manufactured is wholly unnecessary and may in this way be avoided. Sugar appears in the urine not because the system has entirely lost the power of oxidizing it but because the pathologic decomposition of albumin in which it is produced does not run exactly even and parallel with the capacity of the system to burn it. In the case experimented on by the writer a return to mixed diet caused a lessened appetite and an increased body weight. Several other cases of diabetes which have come under the notice of the writer and which have been given a mixed diet have maintained relatively good health and became by no means greatly emaciated. The writer is strongly inclined to the belief that the progressive emaciation which is so often seen in diabetes is not so much due to the disease itself as to the unnatural conditions of diet under which the patient has been so frequently placed.

VI. THE DIABETIC HAS AN ESPECIAL PREDISPOSITION TOWARD METABOLISM.

It is a characteristic symptom of diabetes that during the later and severe stages a great emaciation and loss of body weight occurs. The patient observed by the writer lost about forty-five pounds or 30 per cent. of his body weight during the eleven months through which the disease continued, while his excretions of urea rose as high as 75–80 grams in the twenty-four

hours. Many observers have shown that a diabetic is subject to a more rapid metabolism than is a healthy individual. Gachtgen ("Ueber Stoffwechsel beim Diabeties vergleichen mit einem Gesunden," Diss. Dorpat, 1872) showed that a diabetic and a healthy individual of the same weight and ingesting the same amounts of a mixed diet differed greatly in their nitrogenous decomposition, the diabetic excreting far more urea than the healthy individual. This result he confirmed by repeated observations. "A diabetic on fasting excreted much more urea than a healthy individual under the same conditions" (Kratschmer, *Sitzungsber. d. Wien. Akad.*, iii, 66, 1872). It was found by Kûlz (Ueber Harnauscheidung im Diab.," Diss. Marburg, 1872) that a young diabetic girl on the same diet and under the same conditions as a strong, healthy man, excreted 50 grams of urea more than the latter during the twenty-four hours. Cohnheim says ("Vorles. ü. allgem. Path., p. 110) that "there is an increased metabolism going on in diabetes as is shown by the increased amount of urea excreted. The quantity excreted may go up as high as 150 grams in the twenty-four hours. . . . The increased appetite is simply due to the attempt of the system to make good the excessive albumin decomposition." According to Voit ("Physiologie d. Stoffwechsels," p. 227). "It has been supposed that the increased amounts of urea in diabetes was caused by the large amounts of albumin ingested, but it very soon became evident that the diabetic is obliged to eat so much because the loss and consumption in his body is so enormous." It has been shown by Voit and Pettenkofer (quoted by Lusk, "Ueber den Einfluss d. Kohlenhyd. auf d. Eiweisszerfall," 1891) that a mixed diet which was sufficient to keep a strong, healthy workingman, weighing 71 kilos, in good condition was not sufficient for the needs of a diabetic, weighing 54 kilos, and that the latter lost fat and albumin from his own body.

VII. THE DIABETIC POSSESSES SOME POWER OF BURNING INGESTED SUGAR, SINCE THE INGESTION BEARS NO PROPORTION TO THE EXCRETION.

It has been shown by Kûlz (Marburg, Elwert, 1874, viii, 222) in a series of experiments carried on upon six diabetics, four of whom had the mild form and two the severe form, as he says, that a diabetic has by no means lost all power of oxidizing ingested glucose. In his first experiment, made upon a mild form of the disease, a certain amount of nitrogenous food was allowed each day, to it being added a daily allowance of 100 grams of dextrose in watery solution, which the patient drank in thirty to forty-five minutes. The patient previous to this experiment was placed on a meat diet until all sugar had disappeared from the urine.

Experiment.	Twenty-four hours' urine. C.c.	Sugar excretion. Gm.
1	1273	0.946
2	1527	2.994
3	2144	1.526
4	1622	1.950
5	1653	1.710
6	1353	3.996
7	1278	3.510
8	1344	5.898
9	966	4.536
10	1226	4.914
11	1299	5.220
12	1454	2.319

By this table, therefore, it is seen that this patient only excreted about 3 per cent. of the ingested sugar unoxidized and had utilized the remaining 97 per cent.

The second experiment was made on a patient suffering from the severe form of the disease. This patient while under a strictly proteid diet had a daily sugar excretion of 47 grams. To the same diet was now added 100 grams of glucose in watery solution which was drunk early in the day.

	Twenty-four hours' urine. C.c.	Sugar excretion. Gm.
1	2496	79.8
2	2763	90
3	2444	71.6
4	1905	85.1

From these results the average daily excretion of 47 grams must be deducted. On this treatment the sugar excretion only increased from 38 to 47 per cent., showing that in a severe diabetes the patient still retains the power of burning considerable sugar. Seegen says (quoted by Kûlz, *loc. cit.*) that "in many instances a certain tolerance of starchy diet exists and that it is only when the quantity of carbohydrates is excessive that sugar appears.' He then mentions a patient who excreted 4 grams of glucose following the ingestion of 30 grams. The assumption that 26 grams was the maximum quantity which the patient was able to utilize would be erroneous since in further experiments upon the same patient it was found that the administration of 60 grams of glucose was followed by an excretion of only 5.58 grams, and that only 13.13 grams were eliminated after ingesting 90 grams. In a second case the same investigator found an excretion of 5.998 grams after the ingestion of 50 grams of sugar, while the ingestion of 100 grams of sugar was followed by the elimination of only 8.924 grams. Had the organism only been able to oxidize the 45 grams which were not excreted in the first place, the administration of an additional 30 grams should have resulted in a sugar output of 55 grams. On the contrary there was only an increase of about 3 grams. Kûlz states that he has many times confirmed these results of Seegen. He states that "the assumption that the ingestion of a quantity of sugar, in excess of what appears to be the amount which can be oxidized in the system, will result in the excretion of this amount unchanged in the urine must therefore be considered to be wholly untrue." In the case treated by the writer the sugar excretion, while on a mixed diet, after a slight fluctuation remained for about four weeks—until the death of the patient—at about the same point at which it was constant while no carbohydrates whatever were allowed. While under a mixed diet the patient took fairly large amounts of carbohydrates in the form of bread, oatmeal, rice and hominy, in addition to his other food. This ingestion did not result in any permanent increase in the sugar output and the patient must therefore have utilized a large proportion of the sugar so ingested—while the allowance of carbohydrates was followed by a most marked and rapid physical and mental improvement on the part of the patient.

VIII. THE ABNORMAL METABOLISM WHICH IS ESPECIALLY PRODUCED BY A PROTEID DIET RESULTS IN THE EXCESSIVE PRODUCTION OF TOXIC BODIES.

Leva says (*Deutsch. Arch. f. klin. Med.*, May, 1891): "We found that on the usual diet with high sugar excretion the ferric chlorid reaction was weak and often absent. On proteid diet, however, where the sugar excretion was smaller, the reaction was very strong indeed. In one case, as long as the patient

excreted considerable sugar on the normal diet, no ferric chlorid test was present, but it appeared very markedly as soon as the patient maintained a proteid diet, disappeared again on a return to a mixed diet, and so continued coming and going according to the foods ingested." It was found by Janike (*Schmidt's Jahrbücher*, 1884, 204, 63) in two cases that a pure meat diet originated this reaction and that, if a mixed diet was afterward given, the ferric chlorid reaction disappeared in twenty-four to forty-eight hours.

Rossbach (*Corresp. d. allgem. ärztl. Ver. f. Thuringen*, 1887) placed a diabetic on an exclusive meat and fat diet. During the entire continuance of this treatment strong tests for acetone and diacetic acid could be obtained from the urine. Upon adding carbohydrates to the diet the sugar excretion rose somewhat, but the acetonuria and diaceturia entirely disappeared. Hugounenq (*Am. Jour. Med. Sci.*, October, 1887) has found the production and excretion of oxybutyric acid to be greatly favored, if not actually produced, by an exclusive meat diet. He does not appear to find this acid in urines which have been passed while on a mixed diet.

That this condition holds good in health as well as disease has been shown by Ephraim (Diss. Breslau, 1885). He found by a number of experiments made upon healthy persons, that a diet of pure albumin is followed by the appearance of acetone in the urine. He observed also that if carbohydrates are administered even with large quantities of albumin, no acetone can be detected in the urine. Clarke and Skelton (*Am. Jour. of Obstetrics*, February, 1897) state that "it (acetone) is found in urine and blood, in small quantities normally, and in large quantities in those suffering from abnormal decomposition of organized proteids. During the first twenty-four hours of starvation the amount of acetone increased forty-eight times in the case of Cetti, the starvation artist."

In the case observed by the writer, it was noticed that no ferric chlorid reaction was given by the urine previous to the institution of treatment, but that it at once appeared upon placing the patient upon a diet from which all carbohydrates had been excluded. It was further noted that, on again permitting carbohydrates to be eaten, this reaction was greatly diminished in intensity; that, on temporarily excluding carbohydrates from the diet, this reaction returned with almost its former intensity, and that this reaction was least in urines passed at mealtimes, and reached its greatest intensity in urines passed several hours after the ingestion of large quantities of meats. From the above observations he concludes that acetone, diacetic and oxybutyric acids are products rather of an albumin decomposition than an oxidation of sugar, and that their production is favored, and even directly induced, by the exclusion of carbohydrates from the diet. The production of these substances is probably accomplished in two ways, first, by the direct decomposition of the ingested albumin; and secondly, by abnormal splitting up of the systemic tissues—both caused by the elimination of carbohydrates from the diet.

IX. DIABETES IS DUE TO A DEPRESSED NERVOUS CONDITION, WHICH MUST ESPECIALLY FAVOR THE ACTION OF TOXIC BODIES.

Strümpell believes ("Specialle Pathologie und Therapie") that diabetes is due to a depressed and atonic condition of the nervous system, which may be either inherited or acquired. This decreased nervous condition causes a predisposition not only for diabetes, but for various neuroses and psychoses also. Schmitz (*Brit. Med. Jour.*, 1883) gives an analysis of 600 cases of diabetes, in which 248 were hereditary. Ninety-six came of neuropathic or psycopathic families; in 183 the exciting cause was acute neurotic disorder. In one-third of a large series of cases reported by Ord (*N. Y. Med. Record*, 1884, p. 230), there was a history of mental anxiety or overwork, and in one-third a history of alcoholism. Quite recently Schmitz (*Berliner klinische Wochenschrift*, July 6, 1891), in an analysis of over 2,500 cases of diabetes, was able to find an hereditary neurotic taint in about 75 per cent. of all cases, in 15 per cent. he could get no history, and in the remaining 10 per cent. the results were negative. "Severe psychoses and melancholia which led to suicide were found in 428 families which had several cases of diabetes in each. In the families of 263 diabetics in which there was only one case there were many instances of insanity, especially of melancholia which induced suicide. I have also found that the evils which most resemble insanity—the morphin habit, alcoholism and onanism—are accustomed to occur frequently in diabetic families." He believes that there must be always a predisposition to induce the occurrence of this disease. There is then a condition of the nervous system in diabetes which is especially depressed and atonic, and it is evident that any toxic bodies acting on the nervous centers, as the oxy-acids are supposed to do, will be resisted to a far less degree than in health. For this reason, therefore, the occurrence of diacetic and oxybutyric acids in diabetes is of most dangerous import. In this connection it may be well to call to mind the neuroses and psychoses to which the diabetic is so liable, the neuralgia, headache, melancholia, vertigo, loss of memory, etc. Are these affections to be considered as the direct result of the disease itself, or as in great part due to the artificial conditions of diet under which, for the past hundred years, it has been customary to place diabetics? The writer is strongly of the impression that if the actual origination of these affections is not due to the rigorous maintenance of a proteid diet, at least it is directly responsible for the aggravation of any such conditions.

X. THE PRODUCTION OF TOXIC BODIES IS PREVENTED OR RETARDED BY THE ADMINISTRATION OF CARBOHYDRATES.

Since it has been shown in this article that the production of toxic bodies is the result of an abnormal albumin decomposition, and as it has also been demonstrated that the administration of carbohydrates retards and prevents this excessive metabolism, it is evident that no elaborate discussion is necessary to prove the truth of the above hypothesis. Suffice it to say that the experience of the writer, as well as the previously quoted observations of others, agree that acetone, diacetic acid and oxybutyric acid are greatly diminished in quantity or entirely disappear if carbohydrates are given. Prevent excessive metabolism, therefore, and toxemia is prevented.

CONCLUSIONS.

The conclusions arrived at in this article can best be shown by a recapitulation of the hypotheses demonstrated. They are as follows:

1. Sugar is always present in the blood.
2. The absence of carbohydrates from the diet does

not cause a disappearance of the blood sugar. *Hence sugar must have some other source than the carbohydrates ingested.*

3. This other source of sugar is the ingested and systemic albumin through a process of decomposition.

4. An increased albumin decomposition due to the rigid enforcement of a purely nitrogenous diet, means an increased metabolism and consequent loss of body weight. *Hence the cutting off of carbohydrates from the diet directly produces an increased metabolism.*

5. *Vice versa*, the administration of carbohydrates retards metabolism.

6. The diabetic has an especial predisposition toward metabolism.

7. The diabetic has by no means lost the power of burning sugar, therefore: *Sugar must, even more than in health, be allowed in order to prevent loss of weight and muscular weakness, which may ultimate in one of the natural endings of diabetes, death by asthenia.*

8. The abnormal albumin metabolism, which is especially produced by a rigid proteid diet, results in the production of toxic bodies.

9. The depressed nervous condition of the diabetic is especially favorable for the action of these bodies.

10. The production of toxic bodies is prevented or retarded by the administration of carbohydrates. Hence: *Carbohydrates should be administered to the diabetic to prevent the formation of certain toxic bodies and the severe and often fatal nervous and cerebral symptoms which they induce.*

That sugar is an important factor in the maintenance of health has long been recognized. Its presence in the blood under all conditions has repeatedly been demonstrated and by its oxidation it is believed to supply heat and energy to the organism. In the system, as is well known, the ingested carbohydrates are converted into glycogen and stored up as such, chiefly in the liver, for future consumption. This reservoir of heat and energy is called upon from time to time according to the needs of the system; a portion of the glycogen is reconverted into sugar, enters the blood current and is oxidized in the ultimate production of water and carbon dioxid. Ordinarily, then, the system receives its sugar in an easily assimilated form and, without any violent chemical changes, it is passed on into the blood current and there oxidized. Should this natural source be now removed by unnatural conditions of diet its manufacture is at once begun from an albumin source by the organism, which, continued over a considerable period, results in a progressive loss of weight due to the increased katabolism caused by production of the necessary sugar. In health this production this manufacture of sugar keeps within the capacity of the system to completely oxidize it. In diabetes, however, this relationship is lost, the production of sugar runs far in excess of its consumption and the portion of sugar which is in excess of what the system is able to oxidize is excreted unburned.

The accepted treatment of diabetes has essentially consisted in placing the patient upon a diet from which all carbohydrates are excluded. This treatment has the sole object of causing the disappearance of sugar from the urine at any cost and is based upon the false hypothesis that if this can be accomplished the disease is cured and that the presence of sugar in the urine constitutes the affection. It can not be too strongly urged that sugar in the urine does not constitute the disease nor is its presence responsible for any pathologic changes or abnormal symptoms. By itself it is merely a symptom and a result of the more morbid processes through which the occurrence of such excessive quantities of sugar in the blood is rendered possible. To treat the sugar excretion can not cure the diabetes. To attempt to treat a constitutional affection like diabetes from a purely symptomatic standpoint would be analogous to attempting the cure of phthisis by treatment directed toward its accompanying cough. The treatment in both should be directed toward the constitutional changes which cause the excretion of sugar in the one case and the cough in the other. The sugar excretion, however, may in one way be pathognomonic since its presence or absence, while on a mixed diet, shows the presence or absence of the diabetes and if, under such a diet, sugar is no longer excreted a cure may be said to have taken place—not because the sugar had simply disappeared from the urine but because the morbid processes, by which the sugar was produced or by which its oxidation was rendered less complete, had ceased to act. It has already been shown that a healthy individual can not maintain a normal systemic condition upon a proteid diet, that a diabetic is especially liable to an excessive metabolism and still it has been the custom to sentence a diabetic, the victim of a disease due to nervous depression, to conditions of diet which directly tend to lower his vitality, to decrease his powers of resistance to the diabetes or to an intercurrent affection and to directly hasten his death by anesthenia or coma. It must be urged that in true diabetes the diminution of the sugar excretion by means of a proteid diet means simply the decrease of a symptom at the expense of an essential disease. It was recently said by Dr. Liebmann (*Boston Med. and Surg. Jour.*, Sept. 3, 1896): "I myself am a sufferer from this disease (diabetes). I can get along very well without potatoes or pastry but I must have bread and if I do not get bread I become so weak that I can not work. I would rather have 3 per cent. of sugar in my urine and for the time being feel strong than have only 1 per cent. or none and feel otherwise."

But, it may be urged, "Why give more sugar since the system is already unable to utilize what is excreted unoxidized?" A detailed explanatien of this point will be given in the following paper. Suffice it here to say that the carbohydratic ingestion does not proportionately effect the sugar excretion. If a diabetic be given carbohydrates up to a certain amount it is found that an excess of this quantity does not cause a corresponding increase in the sugar elimination and it is evident that the diabetic still possesses the power of utilizing ordinary dextrose which he has lost to a greater or less degree with regard to sugar produced by the splitting of albumin. The ingestion of carbohydrates can therefore do no harm, but is rather beneficial in that it supplies an easily assimilated sugar to the organism. Are the extremely dangerous cerebral symptoms, the great body waste and consequent emaciation resulting from the enforcement of a proteid diet, are they to be considered as of less importance than the excretion of a few grams of unburned sugar which, it must be reiterated, has but little pathologic and no prognostic significance? A true diabetes can be influenced only unfavorably by the exclusion of carbohydrates from the diet although a simple glycosuria may disappear during or consequent to such treatment. In conclusion, why restrict a patient with dia-

betes to a purely proteid diet? The progress of the disease is not favorably influenced in this way and abnormal conditions are thus produced under which even the healthy individual finds it impossible to maintain his normal systemic condition. A fever patient is carefully nourished and all supporting measures are employed, and yet the processes in diabetes are in one sense similar. Let the diabetic, therefore, live upon a diet which it has been ascertained in his case keeps katabolism at the minimum. Let all depressing measures be avoided and let the treatment be directed not toward the symptomatic sugar excretion, but rather attack its source in those morbid processes by which its excretion in the urine, unoxidized, is brought about.

No means are at present known by which a cure of true diabetes can be rendered certain or even probable and it will probably be as difficult a matter to find a specific for this disease as to find one for chorea or melancholia. The treatment then must be prophylactic; to prevent coma and prolong life by a maintenance of the systemic strength and condition by a retarded metabolism. The writer has endeavored in this article to demonstrate that the employment of an exclusive meat or proteid diet is directly inimical to the accomplishment of these results.

A FECAL FISTULA THROUGH THE APPENDIX RESULTING FROM A PERFORATING APPENDICITIS.

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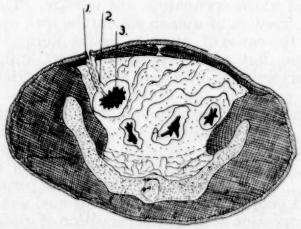
The patient, Captain J. A. O'B., aged 46 years, a native of Ireland, has been well known among steamboat and shipping men on the Pacific Coast for many years. He had a slight attack of pain in the bowels in February, 1894, for which he was treated in the hospital for two days. It was thought to have been a "bilious attack." In April, 1896, he took his steamer to Cook's Inlet, Alaska, with a party of miners and shortly before his arrival he was seized with a severe pain in the right side of the abdomen, and as soon as the steamer reached her destination he placed himself in the care of Dr. B. W. Rodgers of Oakland, Cal., who happened to be at the Inlet, as surgeon for a party of prospectors. He continued to grow worse and, on April 19, Dr. Rodgers operated, with the assistance of a dentist, who gave the anesthetic. The operation was performed in a little shack on the beach while the thermometer stood 9 degrees below zero. A large abscess was opened and the sac removed. It was thought to have been an abscess between the large intestine and the abdominal wall above the appendix. The cavity was drained and packed with iodoform gauze. As soon as the patient was able to bear transportation he was brought to Seattle, where he was placed in the hospital June 5, 1896. He regained his strength rapidly and after a few weeks the wound had all closed but a small sinus through which pus and occasionally fecal matter exuded. Thinking this would close spontaneously, I discharged him from the hospital, June 25, 1896, and in a few days he was able to resume his duties on board his vessel. The fistula was treated by irrigations of bichlorid solution and peroxid of hydrogen, but it refused to close completely, and at times became quite painful. Hot poultices applied over the wound always relieved the pain and soreness. The discharge was purulent most of the time but occasionally become fecal. His general health remained good and he almost regained his usual strength and weight.

About Jan. 15, 1897, the pains in his abdomen and side became so severe that he was compelled to leave his vessel and go to his home. He had a chill, followed by a high temperature for a few days, and was sent to the hospital for treatment Jan. 22, 1897. The abdominal wall around the fistula was red, swollen and very tender. The pain and soreness were soon relieved by rest in bed and hot fomentations. It was decided to give an anesthetic and dilate the fistula for a more thorough examination, and, if possible to pack it with gauze down to the intestinal opening, and thus endeavor to get it to close. He was operated on January 26, under chloroform anesthesia. At this time a probe introduced into the fistula appeared to enter a small sinus in the abdominal wall in a downward, backward and slightly inward direction for a distance of about four inches, when it entered a free cavity which was evidently the lumen of the intestine. An attempt was made to dilate the external end of the fistula by introducing a pair of hemostatic forceps closed and then forcibly open them, when, somewhat



1, the fistula through abdominal wall. 2, the appendix, with perforated tip, continuous with fistula. 3, cecum.

to our surprise, the median wall of the sinus gave way and the forceps blade opened into the abdominal cavity when but little force had been applied. A transverse incision was now made to the outer side of the fistula and the finger introduced into the abdomen, when it was discovered that the long sinus traced by the probe was the appendix with its tip adherent to the abdominal wall and perforated. The probe had passed directly through the wall and through the entire length of the appendix into the cecum. The appendix was loosened from the abdominal wall, and, after ligating its mesentery, was tied off with silk and the stump thoroughly cauterized with carbolic acid. The cecum was bound down so that it could not be brought into the wound for a thorough technique of the stump. The wound in the abdominal wall was partially closed with silkworm gut sutures and packed with iodoform gauze. It healed readily and the patient has since been free from pain and tenderness in that side, and is quite strong and robust. There is some tendency to the formation of a hernia through the scar of the first operation. The appendix removed was two and one-quarter inches long and free from adhesions except at the tip where it was attached to the abdominal wall. It contained two fecal concretions about the size and shape of date seeds, which were probably accountable for the pains and the inter-

mittent discharge of fecal matter from the sinus. There was no doubt a perforation at the tip, at the time of the attack of appendicitis, which had become adherent to and formed an abscess cavity on the abdominal wall. The cavity having been opened and drained, finally closed down to a sinus which was kept pervious by the intermittent discharge of fecal matter through the appendix. The accompanying rough sketch will assist in giving a better conception of the position of the fistula and appendix.

PEDERASTY VS. PROSTITUTION; A FEW HISTORIC NOTES.

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In an article written by Dr. Allen, published in the JOURNAL March 13, 1897, reference is made to some historic facts regarding the lives, habits and laws governing the hetairæ during the height of Grecian glory and the subsequent decadent Roman Empire. From reading Dr. Allen's citations of the laws controling prostitution, one would conclude that the curse of the Grecian warriors and Roman Emperors were women. The truth is that as long as the women were allowed to exhibit their charms and passions the morals of the ancients were only those of all strong nations whose youths were developed in the manly sports and whose occupation was warfare. The presence and freedom of women among the men undoubtedly was the cause of great excessive normal sexual intercourse, but when the hetairæ were suppressed sexual perversion prevailed to a shameful extent, and was the cause of the rapid disintegration of the Roman Empire. One principal reason for this is to be found in the fact that the courtesans of that period represented the education, wit and wealth of their sex. *Aperte mala cum est mulier, tum demum est bona.* We find in ancient times, at all periods and among all people, the love of men for men was prevalent in proportion as the social condition of women was inferior. We see according to Herodotus how strong was the normal sexual instinct among the Scythians when they met the Amazons, who enjoyed equal rights with the opposite sex. Among the ancient Jews women enjoyed a certain amount of liberty and respect, and this race stigmatized the love of men for men as immoral and criminal. This race regarded a numerous progeny as the principal aim in life. Moses said that the Children of Israel were to multiply like the sands of the sea. According to Flavius Josephus abortion was punished with death. Among the ancient Greeks, who looked upon their women as inferior beings, abortion was allowed (Ploss). It was also permitted in Rome. We have only to recall the word sodomy to appreciate the practices which prevailed in the ancient city of Sodom. The habits of the citizens of this city even extended to animals (*immissio penis in anum*). Was not Queen Semaramis accused of having intercourse with her horse? In antiquity, as well as today, Asia must be considered the cradle of pederasty; although one need not go out of Italy to have a boy offered to him for a consideration. Homosexual love is by no means an unknown practice in America.[1] Tarnowsky[2] states that pederasty was introduced into the Orient from Armenia.

The relation between Ganymede and Jupiter was regarded by the ancient Greeks as an example of love of boys. Xenophon says in his symposium that Jupiter raped Ganymede on account of his soul. Plato in his Phædo gives us more explicit information and speaks more plainly on the subject. He also alludes to practices among men and boys in the gymnasia. The relations between Hercules and Hylas, Achilles and Patroclus, were those of sexual love. Æschines attributes to Homer the intention of speaking of these personages in an erotic sense. I might continue along mythologic lines, but these cited cases are sufficient for my purpose.

The laws of Solon recognized pederasty to a limited extent, although the practice was under certain restrictions, which applied generally to slaves, leaving the free Athenians all possible latitude. The erotic discourses which constitute an important part of Ancient Greek literature, deal largely with pederasty. In Athens there were many temples erected to Eros, protector of homo-sexual love. Athenians tell us that Charmas, lover of Hippias, erected an altar at the entrance to the Academy. The barber shops and baths were the principal meeting places of male lovers, who here practiced pederasty. But it was principally at the gymnasia porticos that masculine love was predominant, being accompanied by coquetry, mincing manners, jealousy and abominable passions (Arnold Hug). Many authors, among them Aristophanes, Plato in his laws, and Plutarch in his erotics, explicitly state the condition of affairs at the gymnasia. There can be no elision of facts, no maladroit euphemism in attempting to explain their statements that pederasty was openly practiced in these public places. Even a personage of the rank and dignity of Callias was made the subject of a comedy of Eupoles, the Antolykos; he was again ridiculed by Aristophanes in his "Birds and Frogs." Callias was the lover of Antolykos. Lysias, the celebrated orator, mentions the prevalence of homo-sexual love in Athens, as does Plutarch. The practice reached its height in the time of Themistocles. To those of my readers who wish further explicit information on this subject I refer to the Symposium and Phædo of Plato, and the Symposium of Xenophon. These latter authors evidently wrote these works with the intention of acquitting or excusing Socrates of the reproach of his loving boys in the carnal sense. Dr. Allen speaks of Socrates listening to the lectures of Aspasia, the celebrated courtesan. Socrates and Alcibiades were victims of homo-sexual love and passions. Any student would rightly construe the language of Alcibiades when speaking of Socrates. Who does not recall all the flatteries, importunities, all the artifices in dress and manner Alcibiades used to seduce Socrates? We know that Alcibiades had numerous lovers. One author, Cornelius Nepos, says that he was greatly loved in the Greek manner (*penis immissio*). Socrates weakly explains his Eros by his desire to exercise influence over youth. Haller passes a very severe judgment on Socrates.[3] According to him, Socrates was a debauched philosopher who ever had on his lips the word virtue, and that in reality practiced pederasty. It was the well-known hetaira mentioned by Dr. Allen that instigated Socrates to love Alcibiades in the carnal sense. Pausanias, in his zeal to give pederasty an elevated character, said that those who do not love with the Eros of Urania, that is, those

[1] See Author's paper, Alienist and Neurologist, January, 1896; April, 1897.

[2] Die Krankleaften Erscheinungen des Geschlechtsinnes, Berlin, 1886.

[3] Die Rede des Sokrates in Platons Symposium und das Problem der Erotik; M. Koch, Berlin, 1886.

who do not love men but women, think only of satisfying a vulgar desire.

The noble traits of the Spartans even extended to their laws relating to sexual acts. With them homosexual love was forbidden and punished, although it was undoubtedly practiced secretly to a certain extent. Men who had sexual intercourse with each other were considered incapable of good and noble actions. In Bœotia pederasty was considered a state of matrimony. The same conditions prevailed in Elis and Thebes, and the famous sacred legion of three hundred Thebans was composed of warriors and their lovers. The barbarians condemned the practice and punished severely those addicted to the vice.

What I have said concerning the interpretations of the writing of the ancient authors, only refer to the historians. If we search further and read the poets, even the laymen must admit that the songs of these writers are honeycombed with perverted sexual senses. As an example let us take Anacreon's portrait of his friend Batyttus: "His hair is black and shining, his throat is like ivory and his hips are as beautiful as those of Pollux. Between his slender thighs, his thighs full of joy, I accomplished with modesty an immodest act, which really aspires to love." This ode is teeming with such perverted ideas, and is only excelled in its lupanar incidents by the works of Theocritus. If, as Lessing says, a poet should only feel what he writes, we can only draw one conclusion concerning the habits of the ancient poets.

In closing these cursory historic notes it is only just to make some compensatory statements: Pederasty and respect for women appear to have been in inverse ratio. At the time of which we write women enjoyed but little esteem. Undoubtedly the rigorous separation of the sexes accounts somewhat for pederasty. Female modesty was strictly respected. The Greeks were not indifferent to the propagation of the species, and celibacy, in spite of pederasty, was forbidden. The laws of Lycurgus imposed humiliating punishment on celibates, and in Corinth and Athens celibates were denied decent burial.

We find that pederasty was not prevalent in Rome until after the first period of the Roman Republic, but began to flourish after the Punic wars. The practice was brought to Rome from the Carthaginians. We have, however, evidence enough that it existed under the rule of the Cæsars. Even before this event Titus Veturius, a slave of C. Platius, was punished by his master for having refused him his favors (Dionysius, Valerius Maximus). According to Polybius a boy could be bought for a talent in Rome. It is a noticeable fact that during the rule of the Cæsars celibacy existed to a great extent, while pederasty was the almost universal practice, although forbidden by laws. Suetonius says that Cæsar was often accused of pederasty. He certainly took along on his campaign a large number of gaily decorated goats for himself and favored officers. During his wars in Asia it is stated that he prostituted himself to Nicodemus. So well known was this that Curio gave him the name of Lupanar; others the Queen of Bithnia. Cicero also states that he sacrificed the flower of his youth to Nicodemus. But Cæsar was not indifferent to the opposite sex and was generally known as the husband of all wives and the wife of all husbands. In most respects Cæsar was effeminate. He did everything possible to attract his own sex by his personal appearance. He had himself carefully dressed and his face smoothly shaved. He had his body depillated in order to give his skin an effeminate appearance to the touch. Octavius, the first Emperor of Rome, labored under the same accusation as Cæsar. Mark Antony says that he had intercourse with Cæsar, which was the price of his adoption. Of the excesses of Tiberius it is scarcely necessary to speak. He debauched the youths wholesale. Caligula did not pay much attention to the courtesans. Valerius Catullus openly said that Caligula had made him ill by his excesses. Mantegazza says that the following verses refer to Caligula:

> "Tres uno in lectu. Stuprum duo perpetiuntur,
> Et duo committunt; quatuor esse reor.
> Falleris, extremis da singula crimina, et illum
> Bis numeres medium, qui facit et patitur."

"There are three in one bed; two are passive in debauchery and two are active. I think there are four. You are in error. Impute one crime to those outside, but the man in the middle, who is both active and passive, you must count twice." This passage is clear enough to enable us to understand the vices attributed to Caligula. The son-in-law of Claudius, Pompey, was stabbed because he was found in the arms of a boy that Claudius himself loved. Nero had the young boy Sporus metamorphosed as far as possible into a woman and publicly married him, exacting for him all the honors due to the wife of a Cæsar. Some wag of the day remarked what a pity it was that Nero's father had not had the habits of his son. (I am indebted to Dr. Moll's *Contrare Sexualemfindung* for many of the historic facts given.)

Prostitution as it existed among the ancients was a sad condition of morals. When it flourished in Egypt and Rome with all its license, wealth and social recognition, there was moral palsy but mental activity. When the hetairæ were suppressed, their magnificent and harmonious banquets neglected, their songs unsung, sexual perversion and inversion became prevalent and mental and physical degeneration was the precipitate left. One was a condition of excessive normal sexual impulsion; the other abnormal sexual propulsion. Of two evils choose the lesser. The proper regulation of prostitution is necessary in our present social condition. History shows this to be a logical sequitur. Nothing but mental obmutesence, obscuration of physical facts and incoherence of a former adolescence can be the excuse for arguing otherwise.

ADVICE TO THE PROSPECTIVE MOTHER ASSISTANCE DURING HER CONFINEMENT AND CARE FOR A FEW DAYS FOLLOWING.

BY J. O. MALSBERY, M.D.
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Our advice to the prospective mother must necessarily be ineffective, owing to her inherent tendencies and conformity to custom. The advice to have been effective, should have been given and more or less closely observed by her progenitor mother. This advice not having been followed, if given, has led to a change in her anatomy and lessening of her vital and physical forces. Then does it look plausible that we can supplant those inherent defects, if such there be, by advice and rules of habit to be followed during gestation or just prior to confinement, and make her delivery as of yore?

I answer, no. We can do much, however, by hints and suggestions suited to each patient, to lead the prospective mother up to her time of confinement in the best possible manner, considering her heritage, inborn customs and acquired habits of dress, providing, however, that our enjoinders be observed, which will rarely be the case. In what way, then, can we be of most actual service to our patients in this now, but not formerly, critical period? I answer by mechanical art and skill. Some "old-timer" may say: "I have practiced medicine forty years and have only had occasion to use 'this mechanical art and skill' some three or four times during that period." I would suggest that the inference would be that even in these few cases mechanics only was used, devoid of the art and skill.

The question occurs to me: What kind of wives does the popular mind, more especially, perhaps, the middle and what is termed the upper classes, demand? Is it the straight-waisted, square-hipped and heavy-muscled woman of serfdom, with the old-time doctor of "give nature a chance" and the easy birth; or, is it the more symmetrical woman with slim waist, shapely hips and rounded muscles, with the skilled physician who is capable of and knows when and how to apply mechanics with art and skill? Regardless of what the popular mind prefers, we have for our patients, in the classes mentioned, those who do or are at least striving to conform to the second class described. And at least one of woman's great aims in life is nice appearance, and to be consistent with the fancies and demands of man for the beautiful. So we are face to face with a painful and difficult labor, which to be sure, as is claimed by the old-time faddist of "wait and give nature a chance," with a wise and grave look, will terminate at some time and in some way, as a rule, if given time enough. How often we know or hear of a physician sitting, lying or sleeping, usually the latter, about a woman in labor for twenty-four, thirty-six; yea, even seventy-two or more hours, with an occasional injunction, and as he may suppose consolation, "there is nothing to do but to wait and allow nature to have her course."

The contempt of the suffering woman for such a physician should impel her to have him thrown into the street for thus allowing her to unnecessarily suffer, beside imperiling her life, together with that of her child. And, too, for such an insulting remark to mechanical science, art and skill, he should be relegated to the accouchement of *squaws*. I will pass abnormal presentations with the hint that they are many times responsible for the delay and unnecessary suffering, which are finally righted in a measure and delivery accomplished without their having been recognized by the accoucheur who is over-dependent upon nature. There are a few cases, however, of such presentations and other abnormalities, in which nature throws up her hands, and mechanical assistance must be had, or the life of the mother or child or both will be sacrificed. Now these are the cases we are taught by the old-time faddist that mechanical interference will be admissable, hands to be preferred of course, though with a wise but grave look he reluctanctly admits that forceps may be resorted to, even though an engine of torture they be.

How often we hear the remarks, "forceps are to be used only when absolutely necessary," "remember that forceps are to be used only to save life," etc.; the humane side of the matter being entirely lost sight of. It is appalling to know the wide-spread mutilation of the perineum of child-bearing women. It is so common, indeed, that we scarcely find a normal perineum after childbirth. Not the complete destruction of the pelvic floor, to be sure, but enough mutilation to destroy the esthetic effect, which is no small affair.

Now, what is the cause of all this? Not forceps, since they have always been relegated to the background. I answer that it is due to the unskilful, inattentive and careless accoucheur, who is not up in this particular art. Note, if you please, the stride and advancement made in surgery, pathology and other branches of our art in the past few years, while obstetrics is still astride the same old hobbies of "wait and allow nature to have her course," "only use forceps as a last resort," etc. Properly constructed forceps, skilfully applied and carefully manipulated is the same boon to this branch of our art as asepsis has been to surgery and the microscope to pathology. What can be more grateful to the parturient woman than to have her suffering cut short, more beneficial at this period than to have her store of strength and vitality preserved, and of more lasting benefit than to have her perineum unmutilated? A few whiffs of chloroform, the skilful use of a properly constructed pair of forceps, at the proper time and in a gentle manner, will accomplish all that is to be desired.

This does not mean that forceps are to be used regardless of circumstances; but that circumstances will nearly always warrant their usage. I have only a word of direction as to how and when to apply the forceps, skilfully and as soon as you can be of any assistance to your patient. Adapt yourself to the convenience of your patient and not she to your convenience. This bugaboo of squaring your patient across the bed, with feet on chairs and you seated between her limbs, is all uncalled for. You should take your patient as you find her, and without any flurry slip the forceps on by the sense of touch, allow them to gently lock, if not at once the first pain will usually lock them; gentle traction in the direction according as the presenting parts advance during contractions, the other hand to be the sentinel to guard the perineum and direct the movements of the presenting parts; the head delivered, now rests on the hand, and with a reasonable amount of care the shoulder will glide over the perineum and the task is over.

The placenta—the old-time faddist is not satisfied to have allowed his patient to fight her own battle thus far unassisted, but he would have her lay in the muss, exhausted as she is, yet another hour or two to allow the uterus, as he says, to regain itself sufficiently to loosen and expel the placenta. An old hobby conceived in ignorance, born of superstition and nurtured in tradition. The fact of the matter is, the placenta is usually loosened by the last expulsive contraction which empties the uterus of the child. Hence there is no occasion for any delay. The fingers of the convenient hand wound up in the cord close to the placenta, with the other hand grasping the fundus of the uterus through the abdominal wall, now gentle traction with firm compression like unto the squeezing of a sponge over the fundus, is all that is required to remove the placenta, and at the same time this firm hold on the uterus, crowding it over to the one side, will rid it of all clots as the placenta is expelled, and continual pressure and kneading for a short time will prevent relaxations and the subsequent

formation of clots, and thereby rid our patient of the annoying "after-pains."

Our patients, as a rule, are not kept in bed long enough after confinement, while their diet is too strenuously restricted during this period. The mother now has a rapidly developing child to nourish (instead of a slow and by a different process as before delivery), together with her own strength, to maintain, nurture, shield and protect. She should therefore be allowed a liberal diet of nourishing food. She should be confined absolutely to bed during the first three weeks after her delivery. The next three weeks she may divide her time between being up and about the house and resting on the couch, while the next three weeks should be spent in gradually resuming her household duties.

Regarding the use of the douche following delivery, there should be no fixed rule, but each case should be conducted according to indications and symptoms. The rise of temperature and a fetid discharge will be indicative of the douche, which should always be used with the patient in the recumbent posture, sterilized warm water probably being as effectual as any antiseptic combination. Sore nipples and suppurating breasts are in all cases preventable. The moisture and smegma conveyed to the nipple by the child's mouth and allowed to remain is a very prolific cause of trouble with the nipples. This, added to the traumatism sometimes caused by nursing, and we have the secret of sore nipples, and their manner of prevention indicated—cleanliness and protection from traumatism. Suppuration is usually due to damage done the nipples, use of the breast-pump and pressure on the milk ducts due to the dragging down of the breasts.

To prove this statement we have only to remember that the hardness, soreness and redness always begin about the nipples, or the outer and under side, or the lower and under side of the breasts, owing to the position the breasts are allowed to assume while the patient is in bed or while she is up and about. The preventive is a wide band about the body in such a manner as to support the breasts well up on the chest and prevent their dragging down to the sides while in bed, and more especially the first few days or week while the breasts are heavy. A support may be needed to prevent their dragging downward after the patient is up and about. The breast-pump should never be resorted to; it most often results in harm and can always be dispensed with.

To remove an excessive amount of secretion from the breasts, limit the amount of fluid taken by the patient, produce free catharsis and apply a firm bandage to the breasts; this will accomplish all that is desired. When the secretion is to be curtailed entirely, for any cause, a persistence in the above for a few days, limiting the catharsis somewhat, will be effective and complete; whereas the use of the breast-pump will only be transitory. I realize there is argument on the other side of this question; there is likewise on the old side of surgery.

QUID AVARUS? STULTUS ET INSANUS.

BY ALBERT S. ASHMEAD, M.D.
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I lived for eighteen months with James Henry Paine, the miser. He occupied a garret room at 177 Bleecker Street, New York; the little house belonged to the Oothout estate. He was apparently 70 or 75 years old, tall, slim-built, with pointed chin; had a sharp, beak-like, rather red nose, whose point turned in to the upper lip; his mouth firm set; his eyes keen, furtive; his forehead high, retreating; bald on the top of the head, and he bore his head carried forward, bent from his shoulders; his walk was a shuffling of one foot in front of the other, about six inches to a step. His face was bearded. He dressed shabbily, or worse; no stockings, shoes tied together with pieces of twine.

It was his habit to go out every morning, at 9 o'clock, and return about the same hour at night or later. When he returned he usually had a bundle of newspapers under his arm. His garret room was littered with dailies. The climbing the stairs at night, to reach his room, would take him a long time. He burned a lamp, or a candle. When he had reached his room, he used to strip stark naked, and go to bed. He washed himself every morning from head to foot; he was the cleanest man bodily that I ever saw, though his clothing was ragged and dirty. He was an educated man; he said that he had an annuity of $375 to live on. If you offered him food, he would eat it ravenously and talk of the current topics of the day with sound sense. He had no infirmity of speech, sight or hearing.

This man, in crossing Broadway one day, was knocked down and received a fracture of the hip. He was carried to his room, where he died (Dec. 23, 1885). After his death, a lawyer presented a paper to the surrogate of New York for probate as the man's last will and testament. It was dated Aug. 15, 1885. It contained only a few lines, by which he gave all he died possessed of to the lawyer. When notice of probate had been published, Mr. Charles F. Chickering, the piano manufacturer, brought to court an old brown-paper parcel, with contents; Mr. Paine, said he, had left that in his trust, seventeen years before. He had put it in his safe, had never opened it and did not know its contents. It was opened in court and found to contain nearly $400,000 of currency and securities, $14,400 in State bank bills, which should have been redeemed in 1863, $40,000 in certificates of deposit which had been lying dormant in the Metropolitan Bank for seven years, and $342,000 in national bank bills. "At simple interest," said Attorney-General Russell, "these sums, so lying useless, would have swelled to $800,000, while the owner went shirtless and stockingless, ate broken crusts and rotten vegetables and slept naked in a stifling garret."

A trial of the case resulted to test the validity of the will, three nephews and a niece appearing as heirs. I was the medical expert in the case. I testified that at the time I knew him, Mr. Paine was incompetent to make a will. Hon. Leslie W. Russell, ex-Attorney-General of the State of New York, appeared for the contestants; ex-Governor Chamberlain of South Carolina for the legatee.

On cross-examination I was asked whether, in my opinion, a miser was a sane or an insane man? I answered that any man who neglected his duty to himself, to relatives, neighbors and to his God, in the possession of great wealth, was insane. This man, if heremembered that he possessed this wealth, failed in these duties. If he did not remember that he possessed it, this might be an evidence of mental incapacity.

Mr. Paine was born on the 10th of April, 1805, in

Boston. He was a shrewd man of business, had received an inheritance of $40,000, and in 1856, when he left Boston to come to New York, he had increased it to $250,000. He had a strong will, and was very obstinate. Only after he came to New York, did he dress poorly and live meanly. While in Boston, he had had no eccentricities of habit or conduct. He left the latter city under a cloud, being suspected of misappropriating funds belonging to the Lobdell estate. In 1860, his brother came to New York, and after much difficulty found him. From this time forward, believing that his brother had lost his fortune, Robert Treat Paine sent him an allowance. In 1862, he was arrested and caused to disgorge the misappropriated funds, $75,000. He declared, "pulling his hair out by the roots," that he was being robbed, blackmailed, victimized. That is the way the thing appeared to his mind. After that, his eccentricities grew on him; yet there is evidence to show that he was quite able to take care of his fortune, though he concealed it from his brother and his friends. In one transaction in 1868, he agreed to furnish $20,000 to be doubled in Wall Street. He required of this partner, before advancing the money, a power of attorney not only to control the $20,000, but to manage all the other's affairs. So closely did he follow his partner that after two or three weeks the latter preferred to forego the contemplated profits and to return Paine his money. The profits in this short time had amounted to $8,000. Instead of giving the partner $4,000, he gave him only $400, under the plea that he had not fulfilled his contract.

From this time on, nothing is known of him, but a life of abject want and beggary. His friend, John H. Wardwell, the claimant, writes to his brother, Robert Treat Paine, Jan. 3, 1883, as follows: "He will not listen to reason, and has become so miserly in spirit, he is thoroughly devoted to a life of abstinence and penury. A gentleman from California has been with us for some time. He has noticed your brother. He says he is precisely in the condition of Mr. Lick of San Francisco, a rich old miser, who was starving himself to death. He was finally put under guardianship by the court (this gentleman being one of them) and was compelled to take care of himself, as a man ought to who was worth his millions." When he was injured on Broadway, Dec. 15, 1885, there were found on his rags $125 in money. He was found dead in bed.

The following facts were distinctly shown by the evidence at the trial: This man allowed nearly $400,000 to lie useless for nearly twenty years, and that he did not, like other misers, enjoy the presence and handling of his treasures, but apparently forgot all about it. He used to steal napkins, food, newspapers and other articles of little value. He would borrow small sums of money, when he had hundreds of dollars in his pocket. He bought sometimes bread, and paid only part of the price, saying that he had lost some money. He denied himself the necessaries of life, thus showing an utter disregard or ignorance of every obligation not only to others, but to himself. He had delusions too, believing that he had a claim against the Chicago Land Company, there being not the slightest ground for such an opinion. He believed his brother to be unfriendly to him, while he was shamelessly living on his bounty. He required 10 per cent. interest on a loan of $10,000 to Mr. Chickering while $400,000 of his money was lying in the latter's safe without bearing interest.

The evidences of mental incapacity in the case of this miser, for he was a miser, whether he remembered the $400,000 stowed away in another's safe, or not, are to be found in the following facts: partial paralysis of the limbs, evidently due to some degeneration of the spinal cord; progressive debility due to chronic diarrhea; lack of memory; filthy habits; disregard of his bodily wants; delusions; the hoarding of such a large sum of money, without specific aim; and the making of a will in vague terms, in a few words, giving it to a man who had no claim on him of any kind. It is possible that, had he not died from weakness of the heart consequent on the shock caused by his accident, he would have fallen within a few months into senile dementia.

The question is, are all misers insane? If so, Johns Hopkins of Baltimore, James Lick of California, were insane, and their wills should not stand, although their wealth did such good work aftertheir death. All men have an element of insanity born with them—*un grain de folie*. In law there is one standard of sanity; in medicine there is another. From the medical standpoint all misers are insane, but the law discriminates. In medicine a man is declared insane on physical as well as mental pleas. The law recognizes in every individual an individual who, as long as he remains faithful to his once known nature, however whimsical, eccentric, absurd that may be, is a sane man. If a man has always been a fool, he is legally sane: he is insane only when the folly crops out suddenly, in sharp contrast with his previous manners and ways. Medicine recognizes alcoholic insanity; law does not. Should a man, while drunk, commit a murder, no expert could prove to the satisfaction of the law the irresponsibility of the patient. Yet medicine affirms that the drunkard is insane, consequently innocent. Drunkenness is the state of a diseased brain. Mr. Paine, up to the time when he left that money in Mr. Chickering's charge, was possibly sane. From that moment his keen desire for the acquisition of wealth began to deteriorate, although it revived in some degree from time to time, like a flickering flame about to be extinguished. As his paralysis increased, there must certainly have been some deterioration of his brain.

Inability to adapt oneself to a changed environment is evidence of insanity. But the opposite, that is, a change of nature without a preceding and corresponding change of environment justifies, perhaps, a similar deduction. There was no cause, no reason, why the life of this man should have been different in New York from what it was in Boston, yet it was utterly different, and had become suddenly so.

Leaving out of the question the moral responsibility of the possession of so much wealth, medicine finds sufficient grounds in this case for the definition of mental incapacity from the facts stated above.

Paine's will was set aside by the surrogate, so that law and medicine together affirmed the insanity of the man.

Definition of Insane Delusion.—The supreme court of errors of Connecticut holds, in the Appeal of Kimberly, Dec. 22, 1896, that the charge of a trial judge is as accurate as, in the nature of things and of language, could reasonably be expected or justly required, when he says that an insane delusion is a false belief, for which there is no reasonable foundation, and which would be incredible under the given circumstances to the same person if of sound mind, and concerning which his mind is not open to permanent correction, through evidence or arguments; and that it is only where false beliefs are such as a reasonable man would not entertain, that they become insane delusions.

SURGERY ONE HUNDRED YEARS AGO.

AN HISTORICAL STUDY

BY DR. GEORGE FISCHER.

DEDICATED TO THE GERMAN SURGICAL ASSOCIATION.

TRANSLATED FOR THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

BY CARL H. VON KLEIN, A.M., M.D.

CHAPTER V.—SURGICAL INSTRUCTION AND LITERATURE.

(*Continued from page 881.*)

In the first half of the century the physicians wrote more in *Latin than in German*. At the expense of the substance, they sought with axxious care for classic purity and beauty of diction and guarded themselves, in their Latin, against errors. "*Donatschnitzer*," the usual expression at that time for grammatical errors. (From the writings of Donatus, a Roman grammarian of about 355 A.D., a system of Latin language was compiled, which served in the middle ages as a guide. Later, a Latin grammar was usually called a Donat.) The national self-consciousness was so weak that for a long time Germans contended as to which language they should write. The one party thought German books did more harm than good, bred quacks and incompetents, and increased the sufferings of nervous people, because every layman could understand the books; therefore it was not well to expound medicine in the mother tongue. They considered it too poor to express everything they desired, it made one ridiculous to use newly-coined words. They wished that all physicians would write in Latin, which would lighten study, since then one need not learn to use so many newer languages. "German is an affront," said the satirist Rabener, in 1751. "I know men who would gladly give half their faculties if they were not German, but might have been born in Rome under the consulate of Cicero. To them nothing is so amusing as the care necessary in the German language to avoid *Donatschnitzer*. Whoever took the pains to write elegant and grammatical German could not in their opinion feel greatly abused if they called him a German ignoramus (deutscher Michel)." The other party occupied the position held by the French, English and Italians, who wrote in their mother tongue and made merry over us because we learned so many foreign languages. It is safe to say we would be held in greater respect by other nations if we had written German; certainly the Latin writers were guilty of great error and folly. Only later in the second half of the century did it become the general custom to write in German, excepting for doctor's dissertations and academic programs, although in 1778 in Baldinger's new magazine for physicians, German and Latin articles alternated. In 1800, Bernstein appended to his practical handbook for physicians, a Greek, French and German index, and supplied the Latin words with long and short signs, that he might not offend a grammatical ear. The German of the second-class surgeons was thoroughly bad, and their descriptions of interesting cases so diffuse and tedious that today it is a punishment to read them. And also the style of the better surgeons left very much to be wished for, even the Surgeon-General Bilguer uses the word "Arschbacken." The first surgeon who wrote in choice German, and even in classic style, was A. G. Richter. He desired an elegant diction and correct expression in order to win the respect of the public. The French, as A. Paré, wrote almost everything in their mother tongue, for the simple reason that they seldom learned foreign languages. Besides their many orthographical inaccuracies, they often stumbled over the names of foreigners in a very laughable way. It was not unusual for them to make authors' names out of the names of cities, and baptismal names were quoted instead of the family name. The surgeon David, in Paris (1757), in a dissertation on the extraction of cataracts, spoke often of the renowned Gottfried, who was no other than the German anatomist, Gottfried Zinn. In the translation of English they made frequent blunders. The words, "By an unknown," which stood on the title-page of an anonymous English work, were rendered, "Monsieur Unknown," and when Pott published his "Farther Remarks upon a Method of Curing the Palsy of the Lower Extremities," M. Duchanoy, in Paris, noticed this work with the following words: *Monsieur Farther vient de publier en Anglaise*, etc.

German literature made a new departure in the second half of the century, when *translations* and extracts from the best works of the English and French were imported. There was an especial need in Germany of surgeons who could work independently, so that good original articles very seldom appeared. One of the evils of that time was the fact that our countrymen rarely made their unsuccessful cases public, and did not admit that the publishing of important unsuccessful cases was often far more instructive than collections of entirely successful cures. The praiseworthy undertaking to import foreign wares had also its reverse side; it lay in the blind esteem for everything foreign and the disregard of everything that did not come from London, Edinburgh or Paris. "People of good taste do not read German books," said Zimmermann. Whence developed a formal anglomania, which retarded the growth of national powers. It is not without interest to observe how belles lettres also suffered from this anglomania from 1750 to 1770. Young's "Night Thoughts," the romances of Richardson, and others, with their verbose, pathetic, sentimental elements have exercised through a long successson of years the greatest influence on the spirit of literary publications in Germany. They indiscriminately translated the most miserable, insignificant pamphlets, so that of the English medical literature appearing in the course of a year about three-fourths was good. The mania for translations was such that of about two hundred and eighty medical works appearing in Germany in 1784, seventy-seven were translations. Pott's work on injuries of the head was translated three times, by Murr, Rumpelt, and Spohr; likewise, his work on hydrocele. Each complained continually of the false rendering and bad German of the others. A few conducted the business *en gros*. Such was the principal product of Dr. Spohr, in Seesen, the father of our celebrated violinist, who within seven years (1786–1792) issued thirty-six translations of large works. Likewise, Dr. Michaelis, in Leipzig, who launched forty-eight translations in ten years, and probably more later. They both published, for the most part, English works, with a few French and Italian books, but, according to the fashion at that time, did not print their names on the title page. "Do not ask my name, since I do not think to make myself a great name through translations," he says in a preface. Regard for everything foreign was carried to such an extent by us that foreigners came to Germany, not only as physicians-in-ordinary, but even as teachers in the universities. In 1729 the French Astruc, Professor of Medicine in

Toulouse, went to Dresden as the Saxon physician-in-ordinary, but he soon returned to France. The Dane, Callisen, in 1787, after the death of Voitus, received a call to the Berlin Collegium Medicum Chirurgicum, but he declined it. When, after Baldinger's departure, the chair of medicine at Göttingen was vacant, they called Dr. Duncan from Edinburgh, offering a salary of £200 sterling. He declined this, as he earned very much more from his practice. At this time J. C. Rougemont became surgeon-in-ordinary to the Kurprince of Cologne, and soon after professor of anatomy and surgery in Bonn. He was born in St. Domingo, had studied in Dijon and Paris and had been, under Desault, demonstrator of anatomy and surgery. He knew no German, but he learned it in a very short time. Erfurt also enjoyed the honor of having a French surgeon, Dr. A. Alix, as professor of anatomy. Apparently convinced that surgery was nowhere in the world so advanced as in France he was proudly triumphant if he could discover an Erfurt village barber in some piece of stupidity. Dr. Alix was insolent enough to assert that in the largest cities of France there were not so many fools to be found as in the smallest villages in Germany; from which one can conclude how it was in German villages. French courtesy he certainly had never known, else he could not have become so inflamed over the ignorance of a surgeon who overlooked the venereal cause of phimosis, that he called him a beast. He belonged to those men who throw dirt if one does not take off his hat to them. The worst consequences of this mania for translations and undue esteem for everything foreign, were that the worth of the national writers was entirely overlooked and that the works of our best surgeons in Germany was much less known than that of foreigners.

The growing interest in natural science early resulted in the introduction of periodicals and magazines. Among the first was the *Hamburgische Magazin*, or "Gesammelte Schriften zum Unterricht und Vergnügen aus der Naturforschung und den angenehmen Wissenschaften überhaupt." The first volume appeared (monthly) in 1747.

Of the magazines which had sprung up with the impetus of the times, many had fallen by the wayside, but those in Hanover survived; and to fill the gap occasioned by those which had suspended, a new journal was established in Berlin, in 1765, under the title, *Gesammelte Schriften und Nachrichten für die Liebhaber der Arzneiwissenschaft, Naturgeschichte und der angenehmen Wissenschaften überhaupt.* It contained, like the one in Hamburg, translations, extracts, news from new books and journals. The following were among *the most important medical and surgical periodicals:*

S. Schaarschmidt, Med. und chir. Berlinische wöchentl. Nachrichten. 6 Bde. 1739–48.—Sammlung der Schriften vom Ursprunge der Wundarzneikunst. Erfurt 1757.—Sammlung chirurgischer Bemerkungen, aus verschiedenen Sprachen übersetzt. Gotha. 5 Theile. 1758–70.—A. G. Richter, Chirurgische Bibliothek. Göttingen. 15 Bde. 1771–97.—Auserlesene Abh. prakt. und chir. Inhalts. Aus den Londoner philos. Transactions. 5 Bde. 1774–80.—J. Cl. Tode, Med. chir. Bibliothek. Kopenhagen. 19 Bde. 1775–86.—Neue med. und chir. Wahrnehmungen, aus verschiedenen Sprachen übersetzt. Gotha 1778.—(Sommer) Sammlungen der auserlesensten und neusten Abhandlungen für Wundärzte. Leipsig 1778–94.—Auszüge aus den besten französischen periodischen med. chir. und pharmac. Schriften. Leipzig. 5 Bde. 1780–84.—Kleine auserlesene med.-chir. Abhandl. aus verschiedenen Sprachen übersetzt. Leipzig 1781.—Wienerische Beiträge zur prakt. Arzneikunde, Wundarzneikunst und Geburtshülfe 1781.—F. A. Weiz, Taschenbuch für deutsche Wundärzte. Altenburg 1783–90. Forts. 1791–95.—Auswahl der besten Beobachtungen für Wundärtze. Leipzig 1783.—Archiv der prakt. Arzneikunst für Wundärzte und Apotheker. Leipzig 1785.—Sammlung med. und chir. Originalabhandlungen. Hannover. 3 Bde. 1785–87.—J. Cl. Tode, Arzneikundige Annalen. Kopenhagen. 13 Hefte. 1787–92. Dessen med. chir. Journal. ib. 5 Bde. 1793–1801.—Abhandl. der k. k. med. chir. Josephs Akademie zu Wien. 2 Bde. 1787–1801.—Der Wundarzt, eine Wochenschrift. Leipzig 1788. 2 Bde.—H. Rougemont, Bibliothèque de chirurgie du Nord. Bonn et Paris 1788.—J. H. Rahn, Med. pract. Bibl. Zürich 1791.—Kortum und Schäfer, Med. prakt. Bibl. für Aerzte und Wundärzte. Münster. 3 Bde. 1789–92.—J. Arnemann, Bibliothek für Chirurgie und prakt. Medicin. Göttingen. 3 Bde. 1790–93.—Simmon, Sammlung der neuesten Beob. englischer Aerzte und Wundärzte für die Jahre 1787–90. A. d. Engl. Frankfurt 1790–94.—Aesculap, eine med.-chir. Zeitschrift, Leipsig 1790.—C. W. Hufeland, Neueste Annalen der franz. Arznei- und Wundarzneikunde. Leipzig. 3 Bde. 1791–1805. J. Hunczovsky und Schmidt, Bibliothek der neuesten med. und chir. Literatur. Wien. 3 Bde. 1701–93.—K. G. Kühn und G. Weigel, Italienische med.-chir. Bibliothek. Leipzig. 4 Bde. 1793–97.—Hufeland, Journal der prakt. Arzneikunde und Wundarzneikunst. Jena 1795. Von ihm und Himly, später mit Harless, Osann fortgesetzt.—Merkwürdige Abh. der London'schen Gesellschaft zur Vermehrung der medic. und chir. Wissench. A. d. Engl. Braunschweig 1797.—Arnemann, Magazin für Wundarzneiwissenschaft. Göttingen. 3 Bde. 1797–1803.—J. C. Loder, Journal der Chirurgie, Geburtshülfe und gerichtl. Arzneik. Jena. 4 Bde. 1797–1806.—Kausch, Geist und Kritik der med. und chir. Zeitschr. Deutschlands. Leipzig. 12 Bde. 1798 bis 1803. Breslau. 18 Bde. 1803–5.—Schreger und Harless, Annalen der neuesten engl. und franz. Chirurgie und Geburtshülfe. Erlangen. 3 Hefte. 1799 bis 1800.

It is seen that Germany in the second half of the century was rich in medical and surgical periodicals, one after another of which, indeed, suspended after the first volume. Among the first of the journals which appeared regularly was the *Berliner Nachrichten* of Prof. Samuel Schaarschmidt, which recited numerous cases and operations. It consisted of one sheet a week and was sold for a groschen. Those periodicals were very popular which appeared quarterly, four making a volume. They contained exhaustive reports of the current publications, and also of foreign works. In medicine, Professor R. A. Vogel made the beginning, in Göttingen, in 1751; he furnished only extracts from the best books, and used for foreign material, the *Gentleman's Magazine*, the *Monthly Review*, and the *Journal des Savans*, if they did not appear at the same time. Besides medicine, he discussed botany, chemistry, anatomy and zoology. In 1771, A. G. Richter founded a similar quarterly for surgery, the first, as well as the best in Germany, through which he rendered the highest service to German science. He gave faithful and complete extracts from the best surgical and obstetric writings at home and abroad. The royal library in Göttingen, which had a rich collection of English works, was of great service to him. He opened his quarterly for the study of cases, but retained the right to abridge them. With the thirteenth volume (1793), Richter took Professor Loder of Jena, who had just become his son-in-law, as a colleague, and announced that only an unexpected accident could deter him from continuing this work. Four years later the first volume of *Loder's Journal für Chirurgie* appeared, which was a continuation of Richter's quarterly, and Richter gave up his work with the fifteenth volume, after twenty-seven years labor. This quarterly combined the best from all countries of Europe and was indispensable to every surgeon. It served as a bridge over which our old, but yet living surgeons passed to English and French, and joined to the surgery of the foreigners the modern German surgery, when Langenbeck, in 1806, began to

publish a review for surgeons. He said he would deem himself happy if he could approach in some small measure to his great predecessor. After Richter, followed the Danish professor and dramatic poet Tode in 1775, with his medical and surgical review, taking as a model the Edinburgh Medical Commentaries. He wished among other things to show everything which appeared in Denmark. With the different personalities, the kind of *criticisms* also changed, which, if they were harsh, threw the authors into a passion. One feared, yes hated the people, of whom Goethe said, "der tausend Sackerment! schlagt ihn todt den Hund! Es is ein Recensent!" Vogel wrote decorously; on the contrary, the prolific Tode, whose name as author or translator is found on 127 different works, was sharp and abusive, and with his gay, trivial expressions was apt to be sarcastic. His bitterness was especially poured upon the works of Gruner and Baldinger, of whose magazine he said, that the master of a mountain-rat had never, at the opening of his curiosity basket, promised more and performed less. Theden could not bear the blame attached to him for his "Instruction for Under-Surgeons," and he wrote Tode an ironical letter thanking him most heartily for the criticism and promising to lay before him a later work, begging his judgment of it. The severely criticised surgeon Bruns also complained in a bitter letter. Tode exacted the highest standards of excellence of the leading surgeons, and he censured Schmucker for offering lack of time as an excuse for a negligent style. He held that it is no mark of respect to a stranger to receive him in a dressing gown, and no fault in a Schmucker can escape criticism, since whatever the first surgeon-general of the Prussian army allows himself to do will be counted a virtue by the great mass of lesser surgeons. Richter's criticisms were irreproachable. He possessed the enviable gift of hitting the nail exactly on the head, avoiding diffuseness, expressing himself clearly and definitely and clothing his thoughts in a pleasing garb. He rarely passed a judgment, but when necessary, "he observed the rule of frankly asserting the truth according to his own conviction, even against the opinions of those whom he honored, and he was equally frank in hating those cynics and cowards who were too craven to appear by day with uncovered faces, but like scholarly bandits, crouch in the darkness, and masked and mailed thrust a dagger into the back of the object of their hatred." Richter's sound judgment, his emphasis of the merits of others and his high appreciation of them, together with the admission of his own mistakes and his efforts to overcome them, qualities which were greatly admired in the surgical reviews, had a powerful influence upon the development of German surgeons. Laconic brevity alternated with pungent sarcasm. His critique of Henckel's "Chirurgische Operationen" consisted of these four words, "es bleibt beim Alten," and of a certain "Odontology," he says, "a treatise on toothache in which almost nothing is said about toothache."

Besides the reviews, there were collections containing treatises or translations and extracts from dissertations. There were also Latin programs and academic theses, often containing but a few pages and of only temporary interest. As many of these, in spite of their merit, were difficult to obtain, A. von Haller collected into five volumes (1755) the most important of the Latin surgical treatises. To make these more available, the Naumburg physician, F. A. Weiz, began (1769) to publish in the German language full extracts from theses and treatises on surgery, and this work was swelled to twenty-six volumes. German surgical literature did not possess the abundance of essays, such as those brought out by the Edinburgh Medical Essays, the Medical Transactions and the Medical Observations and Inquiries; the German work lacked sufficient detail. In 1776 the Surgeon-General Schmucker began some notices of the Prussian army physicians, which were collected in the miscellaneous surgical essays published by him, but not until Arnemann's *Magazin für die Wundarzneiwissenschaft* appeared, in 1797, do we find the first periodical whose object was to report especial cases. It was to contain practical treatises and special notes on surgery, further descriptions of operations and their methods, unusual cases, new surgical remedies, sections reports, questions in surgery and surgical literature; criticisms were entirely excluded. Biographies of living physicians were at that time very well received in Germany. Börner issued the first one, in three volumes (1749); Baldinger followed him, and toward the end of the century, Elwert. In them all, as might be expected, the number of surgeons noticed was much less than that of physicians. A new kind of literature came into fashion in France, the lexicons, in which they expounded the whole science in little broken bits, without coherence (Sue, junior, 1773). Bernstein introduced this kind of literature into Germany.

The number of journals, magazines and collections increased so considerably that in the latter years of the century men began to complain of them, and at the same time good text-books appeared but seldom. The periodicals alone would fill a small library, and it gave the practitioners no little perplexity. For a large part of them the periodicals formed the only source of information and it became more and more impossible for them to collect all these publications and to follow the progress of science.

Most of the teachers of surgery felt obliged to bring out a special *handbook, or text-book*, for their lectures, and for that reason the number of such works was very large compared to those of our time. Within fifty years (1750–1800) there appeared in Germany some sixty handbooks, text-books, principles, guides, manuals and instructions. The most important of these were those by Heister, Platner, Ludwig, Theden, Plenk, Pallas, Eller, van Swieten, A. G. Richter, Bilguer, Bernstein, Loder, Arnemann, Metzger, Ackermann, and others. This number includes twelve translations of text-books, or works of a similar nature; among them the works of de Villars, Sue le jeune, de la Motte, Chopart, Desault, Portal, Lara, Aitkin, Benjamin Bell, White and Nessi. Instead of inserting here a catalogue of surgical books, such as we will have occasion to give from time to time in the course of this work, we will mention in passing only those works which were recommended to German surgeons by their teachers (Professor Plenk and Surgeon-General Theden). They were as follows:

For anatomy.—A. Schaarschmidt, Anatomische Tabellen, 1759.—Plenk, Anfangsgr. der Anatomie.—Cassebohm, Anweisung zur anat. Betrachtung und Zergliederung 1769.—Kulmus, Anat. Tabellen, 1741.—Verdier's und Winslow's anat. Beschrieb.

For physiology.—Haller Erster Umriss der Geschäfte des menschl. Lebens, 1770: Anfangsgr. der Physiologie. 8 Theile, 1762.—Heuermann, Phys. 4 Th. 1751.

For pharmacology.—Plenk, Select. mat. chirurgicæ, 1775. Auswahl der chir. Arzneimittel, 1775.—Gerhardt, Mat. med. 1781.—Gleditsch, Verzeichniss der gewöhl. Arzneigewächse, 1769.—Löseke, Mat. med. 1755.

For medicine.—Tissot's Schriften.—Zimmermann, Von der Erfahrung, 1763.—Löseke, Therap. spec. int. 4 Th. 1767.—Home, Grundsätze der Arz. 1772. Zückert, Abh. über Nahrungsmittel, Speisen u. s. w.

For surgery.—Heister, Grosse Chir. 1718, kleine Chir. 1747.—Z. Platner, Einleitung in die Wundarzneik. 1749.—E. Platner, Zusätze, 1776.—Plenk, Anfangsgründe, 1783.—Ludwig, Anfangsgründe, 1766.—Pallas, Chirurgie, 1764.—Pott, Abh. über versch. Gegenstände der Wundarz. 2 Theile.—Abh. der Académie de Chirurgie.

For bandaging and the use of instruments.—Henckel, Anleitung zum chir. Verbande, 1750.—Garengeot, Traité, 1720.

For operations.—Bertrandt, Abh. 1770.—Heuermann, Abh. 1754.—Henckel, Abh. 1770.

For diseases of the bones.—Petit, Kirkland, Pallas.

For cases in the field.—Works by Bilguer, Theden, Baldinger, van Swieten, Pringle.—Surgical notes by Bilguer, Schmucker, Pheden, Plenk, Leber, Hagen, Henckel, le Dran, Acrel, Bromfield, Goulard.—Bibliothek der Chirurgie by Richter, Weiz (Auszüge aus Disputat.), Sue (chir. Lexicon.)

The following figures may give an idea of *prices of books* at that time:

Heister, Grosse Chirurgie.	2	Thlr.	12 gr.
Heister, Kleine Chirurgie	1	"	
Z. Platner, Einleit. 2 Bde.	2	"	12 "
Haller, Physiologie, 8 Bde.	17	"	
A.G. Richter, Anfangsgründe der Chir. 7 Bde.	10	"	16 "
A.G. Richter, Chir. Bibliothek, 15 Bde. 2 Reg.	22	"	8 "
C. C. von Siebold, Chir. Tagebuch.			16 "
Schmucker, Chir. Wahrn. 2 Bde.	2	"	12 "
Schmucker, Sammlung verm. chir. Schr. 3 Bde	2	"	12 "
Theden, Neue Bemerk. 3 Bde	2	"	2 "
B. Bell, Lehrbegriff, 7 Bde.	6	"	16 "
Zimmermann, Erfahrung	1	"	8 "

I do not know what the dealers paid for surgical works. In general the receipts of literary men in the middle of the century were not inconsiderable if they were university teachers and men of prominence. In Schiller's time, as is known, the book trade showed itself in a very honorable light, prostrating itself before our poet and begging for the privilege of publishing his writings. But in general the revenues were slender; for example, in 1737 a very honorable Herr Lesser received only sixteen good groschen per printed page of a Chronicle of Nordhausen.

(To be continued.)

SOCIETY PROCEEDINGS.

German Medical Society of the City of New York.

Stated Meeting, Feb. 1, 1897.

W. FREUDENTHAL, M.D., in the chair.

Dr. SIMON BARUCH read a paper on

FAULTY HYDROTHERAPY,

in which he opened with the statement that despite its antiquity water has not yet obtained a firm footing in therapeutics; despite its marked clinical results it still requires to be brought to the attention of practitioners; despite its espousal by the best authorities in ancient and modern medical practice and literature, the average medical man is not familiar with its history, action and merits.

Dr. Baruch regarded as the chief reason for this state of affairs, the absence of instruction in hydrotherapy in the curriculum of medical schools, to which is due the ignorance of the rationale of the action of water and the unfamiliarity with its correct application, which are found among the majority of public men. The consequent indifference to definite methods has rendered its application in the hands of many unsuccessful and discouraging. Failure is the sure result of inattention to details. As the physician must judge the value of a remedy by his experience, it followed that failure to achieve the results which the experience of others had led him to expect, has brought this remedy into disrepute, the fact unhappily remaining unrecognized that not the remedy, but its improper application, was at fault.

Although water is a simple remedy and appears to be so easily applied, Dr. Baruch believed that no remedy in the entire materia medica demands a like judgment and care in its application. As an illustration, an incident was referred to showing how a brilliant young hospital physician shrank from the Brand bath in typhoid fever, because he had seen a case die under cold water treatment, which consisted in wrapping the patient in a sheet and sprinkling her with ice water. He insisted that the object of the Brand bath is to sustain the nerve centers first and to reduce the temperature afterward.

Although the latter was regarded as an index of gravity in most cases, the bath was not intended to combat it. A bath of 65 degrees F., with friction for twenty minutes every three hours, whenever the body temperature reached 102.5 degrees F., is calculated to arouse the nerve centers from their lethargy and give an impetus to all the dormant functions depending upon them. The low temperature of the bath irritates the peripheral sensory filaments, from which the irritation is conveyed to the central nervous system, to be reflected upon the heart, lungs and secreting organs. Friction adds to the irritation by multiplying it, the cold water being kept in motion; cold affusion over head and shoulders is added to promote the same object. To whip up the nervous system (as is done in poisoning by narcotics) is the object of the Brand bath. But day by day, with occasional disappointments, a fifth, or a quarter, or a half degree of temperature is gained; the heart maintains its vigor, the kidneys increase their work, the stomach receives more kindly the proffered nourishment; sleep is won.

By this method the enemy can not be routed, the disease can not be shortened, but we hold him in check surely and completely until his reinforcements fail. The bacterial life period reaches its end, the toxins cease to be evolved, and at last the physician stands conqueror of this deadly enemy. This is the true aim, the correct rationale of the Brand bath. Were temperature reduction the chief need, we would find the key to the situation in our splendid coal tar antipyretics; were pulse reduction the desideratum, veratrum viride would prove an open sesame; were nourishment the chief object, there is no lack of this in modern culinary and chemical art. But all these are as naught in the face of a toxemia which overwhelms the nerve centers of the most robust as well as the most feeble patient. To wrap the patient in a sheet and then sprinkle him with ice water, as was done in the case cited, was a deviation from the correct technique of the typhoid fever bath. Such a procedure does not fulfil the main object of arousing the nervous system. After the first shock has passed, no opportunity is given for reaction because the sprinkling of ice water continues, the cutaneous vessels and the elastic tissue of the true skin contract, as evidenced by cutis anserina; the extreme cold imparted by the wet sheet, without remission, benumbs the sensory nerves and thus impedes the transmission of the shock and subsequent stimulus, even if the latter has ensued in an exceptionally strong individual.

Wrapping the patient in a sheet and sprinkling him with ice water did not fulfill these conditions, because of the absence of friction in this faulty technique (which in the Brand bath stimulates to reaction, and by widening the blood area of the skin cools a large quantity of blood) frustrates completely the true aim of the cold bath.

The surface temperature is indeed reduced by this improper method, but the blood is driven to the interior, congestions are favored, the organs are overloaded and the patient emerges from such a bath a shivering, cyanosed weakling. The ideal results obtained by Brand and others in 1,200 cases, without mortality, can only be realized by following the exact technique of Brand.

Dr. Baruch claimed that physicians have failed to obtain ideal results, because they deviated from the ideal technique, each one modifying it to suit his own fancy. He insisted that to the free deviation from its correct technique may be ascribed the lack of appreciation of the therapeutic value of the Brand method. Those physicians who have mastered its technique will agree with Professor Delafield, who teaches that immersion in cold water is the only real treatment of typhoid fever, and the only way to practice this treatment is the exact method of Brand.

In the treatment of all diseases our teachers insist upon correct dosage of medicinal agents, the exact time and mode of their administration, frequency of repetition and even their exact preparation. Dr. Baruch desires to plead for similar care and attention to the prescription of water as a remedy.

In chronic diseases a correct application of water is quite as important as in the acute. A prescription for a bath, or other hydriatic procedure, without exact statement of temperature, duration, pressure and method is as absurd as a prescription for medicine without stating dose and method of administering. The import of pressure, temperature and duration of

every hydriatic procedure requires to be impressed with emphasis. Every physician realizes the difference of effect arising from different temperatures, and yet we commonly read directions for cold, hot and tepid baths.

Dr. Baruch illustrated the correct and contrasted it with the faulty water treatment. He claimed that by gradually accustoming patients to lower temperature and stronger pressure, he has obtained very favorable results in private and hospital practice. If low temperatures are used at once the patient is shocked and depreciated.

The same may be said of neurasthenia and other chronic cases, in which he cited Dr. Draper as claiming that the results of hydrotherapy are striking, but more effective than medicine.

He also referred to other faulty methods practiced by justly eminent teachers who seem to be quiet inexact in prescribing water, but extremely precise in prescribing phosphorus and strychnin. He especially inveighed against the gradually cooled bath, which is intended to avoid shock and be pleasant to the patient. Such a bath does not fulfill its object properly, because the surface vessels are relaxed by the warm water; reactive capacity is diminished by its calming and sedative effect. The vaso-constrictors are depressed. The subsequent cooling of the water finds the sensory nerves unprepared, and chilliness usually results unless the patient be more robust than is the average neurasthenic. It is unhappily a very prevalent error to regard the most agreeable bath as the most salutary. We do not so reason in the application of medicinal agents, of electricity or diet. And the application of water may be made agreeable by gradually accustoming the patient to lower temperatures, slowly reducing them every day or two, making the application brief at first and increasing the duration and pressure day by day. The prime essential, however, should always be borne in mind that reaction is our aim, that this can not be evoked without some shock, that the more intense the latter the more effective the reaction, but the more brief it is, the less unpleasant. If the physician bear in mind that his object in treating such a case is an increase of the quantity of blood circulating in the cutaneous vessels, an enhancement of the nutrition, a stimulus to the entire nervous system, he will endeavor to so order the technique, provided he has mastered its details, that day by day the reactive capacity may be tested and no harm ensue. As the shock and reaction increases day by day, the patient will emerge from the treatment with a ruddy hue. The increased circulation will endure more and more every day, languor and loss of appetite will cease, and if the patient does not fully recover under this domestic treatment, douches of the same temperature and with a pressure of twenty-five to thirty pounds, preceded or not by hot air baths, will bring about a final restoration of health.

In acute cases like typhoid fever, which are under constant observation of the physician, the latter may at once note the result of an improper use of water and modify it, or, as is more often the case, relinquish it altogether. But in chronic cases much damage may be done before the physician discovers it, if the treatment be not in the hands of trained and intelligent attendants who are under medical supervision. Too often the details are left to nurses, because physicians have not received instruction in the rationale and technique.

To enable him to administer water with precision Dr. Baruch has, without neglecting other hydriatic procedures, resorted chiefly to douches, with which he is capable of grading temperature, duration and pressure by means of an apparatus devised by him.

Dr. Baruch concluded by saying:

1. That the therapeutic application of water demands at least as much care as the use of medicinal agents.

2. That owing to the flexibility of water as a remedial agent, greater demands are made upon the practitioner than in the use of medicines.

3. That the best results may be obtained only by following an exact technique in each case.

4. That the reason that different results are obtained by different physicians from the application of water, may be found in the technical errors, committed on account of an erroneous conception of the rationale of hydrotherapy.

DISCUSSION.

Dr. I. ADLER said that in the most modern medical view hydrotherapy plays an important rôle, and that as Dr. Baruch has emphasized, the application of water is so lax, that clinically and diagnostically much less is accomplished than would otherwise be. But this is not alone the fault of physicians, but, perhaps, as much of those who specially cultivate hydrotherapy. The latter seems to be based more on personal impressions than scientific data. We can not accept water, therefore, on the same bases as our medicinal agents. As an example, the physiologic action of strychnin upon the spinal cord is exactly known, but of water we can not say this. There should be a knowledge of the physiologic action of water ere we are asked to accept it as scientific remedy.

Dr. Adler thought it is going too far to accept the baths as the only remedy of typhoid. To him the statistics cited by Dr. Baruch, to prove that the mortality has been reduced to almost nothing, are new. Dr. Adler has used the baths more in hospitals than in private practice, where it is more difficult to apply. One may have very good results without baths, although the latter are one of our very best agents where the heart is feeble, delirium is intense and somnolence occurs. But he can not accept Brand's rule, supported by Dr. Baruch, that 102 degrees F., should be the signal for baths. Some patients become delirious at 100.5 degrees; others may have 105 and not be delirious. He would also like to express confidence in small doses of antipyretics, which afford much relief, although he does not approve of their routine application for temperature reduction.

Dr. L. WEBER has always used cold baths in typhoid in the absence of kidney complications; he begins the treatment with a large dose of calomel to clean the intestinal tract and disinfect it. In private practice he has not often had an opportunity of applying the Brand method. There seems to be a silent but active opposition to it among the nurses. There is no doubt that Brand's method offers great advantages, and is specially adapted for enhancing the resisting capacity of the nervous system. Dr. Weber uses antipyretics in small doses for temperature reduction. In neurasthenia Dr. Weber has seen much of hydrotherapy. It seemed to him, however, that many of these cases recover under any treatment.

Dr. A. ROSE opposed Dr. Adler's views that hydrotherapy was not based upon sufficient scientific investigations and experiments. It would seem that the statements of quacks are more regarded than those scientific experiments. He referred to the plethysograph of Winternitz, by which the passage of blood, driven from one part of the body by cold baths, was demonstrated in other parts. Dr. Rose referred to his experience in erysipelas, and his observations with the permanent baths in obstinate rheumatism.

Dr. A. SEIBERT believed that the complaints made by hydrotherapists, that their doctrines have not been generally accepted by the profession, are to be charged to their own writings, in which they use many hyperboles. The Brand bath is not responsible for the reduction of mortality of typhoid fever during the past thirty years, but rather to the general improvement in the treatment of the disease. A large acquaintance with statistics enables him to say that many sins are committed with statistics. In his hospital practice Dr. Seibert uses the Brand method only on patients who are received in a somnolent condition. He prefers to reach the seat of the disease by cleaning and bathing the intestinal tract rather than to cool the skin and then excite the nervous system.

Dr. Seibert regards as novel the claim that the early adoption of the Brand method is capable of affording absolute protection against complications.

Dr. TALMEY believed that one reason for the non-acceptance of hydrotherapy lies in the objections of the public; another reason lies in the insistance of the hydrotherapist upon so many details, which no ordinary man is presumed as capable of executing as well as they.

Dr. BARUCH closed the discussion by regretting the brief time at his disposal. He insisted that the proof exists showing that the action of water is more rational and scientific than that of any other remedy. Very little is known of the action of strychnin in non toxic dose. It may be administered for days, weeks and months without any subjective or objective evidence of its presence, in the pulse, blood pressure, respiration, etc. Our knowledge of its effects in disease is learned almost entirely from non-toxic doses. Of water we know much more. It may be dosed with precision afforded by a latitude of 70 degrees of temperature (35 to 110), a duration of a second to many minutes, a pressure of from one to forty pounds. We also have various methods of applying it; by applying packs, baths, douches, etc., by which its effects may be graded. A few days ago he subjected an attendant in the Hydriatic Institute to a tub bath of 80 degrees F., for ten minutes. The effect was at once pronounced upon the pulse, as ascertained by the finger and the sphygmograph; the blood count showed an increase of 700,000 red cells and 1,500 white cells in blood drawn from the lobe of the left ear. Is any analogous experiment with non-toxic doses of strychnin on record? So far from there being a lack of scientific experiment of the action of water, these abound within the past five years, having been made in Zuntz's and other laboratories by Breitenstein, Loewy, Knoepfelmacher and others.

Thayer, of Johns Hopkins Hospital, has confirmed the statements of Winternitz and Rovighi, that the red and white blood cells increase after cold water applications; the sphygmomanometer has demonstrated that the force of the heart is increased by them; Vinaj has shown with the ergograph of Mosso with exactness how the muscular power is enhanced by them. Roque and Weil have shown that the urotoxic co-efficient of the urine in typhoid fever is increased manifold after the use of the cold bath.

That early cold baths prevent complications has been demonstrated as no fact in medicine has been demonstrated before. Dr. A. Vogl, medical director of the Bavarian army, has collected from the records of the Military Hospital of Munich all the cases of typhoid fever which were treated during a period of forty years in that hospital. He gives the type of the disease each year, the symptoms, the treatment, mortality and results of autopsy. Since the strict bath treatment was adopted he found the mortality ranged from 15 to 30 per cent. This proves that the result is not due to a change of the type in the disease, which the records show to have varied from year to year during this long period, but that it is entirely the result of the bath treatment which prevented lethal complications. Although the Brand method must be applied before the fifth day, every fever patient may be bathed with advantage. Dr. Baruch stated that he invariably uses it in private practice, that he declines to treat the patient otherwise, and that he has been dismissed from a case but once for this reason.

Contrary to Dr. Talmey's naïve accusation, modern hydrotherapists have taken pains to simplify hydrotherapy and make it the common property of physicians. But this can not be accomplished so long as the latter persists in their skeptical attitude. The most superficial study would demonstrate that water produces a thermic and mechanical excitation of the cutaneous nerve endings which operate upon motor and sensory tracts as a reflex upon the circulation, respiration and secretions. These demonstrations are so abundant in literature that Dr. Baruch would have regarded it as an insult to the intelligence of his audience to have reiterated them.

That a woman may be aroused from syncopy by the simple sprinkling of cold water upon the face is known to almost every lay person, and the scientific explanation of this process is recognized by every tyro in medicine to be a powerful irritation by cold, which is conveyed from the cutaneous nerves to the central nervous system and thence by reflex to the vagus. This seems, perhaps, too simple; rabbits and guinea pigs are not required for the "scientific" explanation of the powerful effect. If such sacrifices are demanded, however, to establish water as a scientific remedy, the classical experiment of Maximilian Schuler upon trephined rabbits may be offered. Schuler exposed the vessels of the pia and, placing the rabbits in water at different temperatures, observed the effects of these applications on the animals, he demonstrated more clearly than has ever been done in the study of any medical agent the effect of these water applications. He showed conclusively that the latter called into action a hydrostatic effect, which makes water a powerful agent for influencing the circulation of blood in an animal. Besides, Winternitz and others have demonstrated in the most exact manner by laboratory experiments that the corpuscular elements of the blood are subjected to such decided changes by water applications that no medical agent is capable of approaching their effects.

A very fruitful but sadly neglected field lies before the practical physician who does not meet hydrotherapy with a shrug of the shoulders.

To Dr. Talmey's insinuations that hydrotherapists are so insistant upon details that it is difficult for ordinary mortals to follow their directions, Dr. Baruch replied by protesting against the tendency of physicians to leave the water treatment of chronic cases to bath attendants or other nurses who claim to know all about it, but really do not know anything but the mechanical part. Does not every physician who orders a cold bath in typhoid fever give the nurse directions regarding the temperature, friction, drying, duration, etc.? Why then should physicians leave such important details to a nurse when ordering a wet pack, douche, etc., for a chronic case. Would it not be far easier for physicians to consult some work on this subject and use their own judgment in ordering the necessary temperature, duration, etc. It is just as absurd to leave these important details to self-important nurses as it is to leave the doses, etc., of a medicine to the druggist to prescribe and administer. Indeed the latter would be safer, because the druggist is, at least, an educated man. As Vogl has said, leaving the treatment entirely in the hands of lay people has brought hydrotherapy into disrepute.

With regard to clinical observations this discussion again makes evident the fact that many physicians have occupied themselves with hydrotherapy insufficiently. In reply to Dr. Seibert's statement that the Brand method is not entitled to the credit of reducing the mortality of typhoid fever, Dr. Baruch referred to Dr. Vogl's statistics for positive evidence to the contrary. Moreover, Prof. G. Gerhardt of Berlin said in his recent opening lecture before his class at the University: "The mortality of typhoid fever has been reduced by the Brand cold water treatment to one-fourth."

That the hydrotherapists "resort to many hyperboles in their writings and lectures" may, as Dr. Seibert states, be true. But the most eminent physicians also resort to "hyperboles" when they have mastered hydrotherapy and applied it correctly. This will be demonstrated by the following excerpts:

Prof. F. A. Hoffman of Leipsic ("Lectures on General Therapeutics," 1892) says: "Herein lies the unexcelled value of cold water in therapeutics; we invigorate the nervous system and thereby enhance the cardiac capacity." (p. 88.) "I am convinced that in time all chronic organic diseases will come into the domain of the bath treatment." (p. 392.)

"Cold affusions have justly been elevated to become the chief remedy in the catarrhal pneumonia of children." (p. 130.)

Prof. Wilhelm Erb of Heidelberg writes in Ziemssen's Cyclopedia: "Among the most effective and powerful agents in our branch are cold and cool baths and cold water treatment. Its results in all possible chronic nerve troubles are extraordinarily favorable. We have few remedies which exert a similar powerful influence upon the nervous system."

Professor Kussmaul of Strasburg writes: "There is no doubt that the belief in the prescription is waning among educated people, and the confidence in dietetic remedies and the remedial value of water is in the ascendant. Water especially has won for itself a constantly growing confidence as a remedy, because, unlike any other, it may be applied by reason of varied temperature and methods to the most varied curative purposes."

Semmola, the recently deceased professor of therapeutics at the Naples University, whose work has been translated into German and supplied with a laudatory preface by Nothnagel, writes: "Hydrotherapy excites cutaneous activity, and with it all functions affecting tissue changes and organic purification, so that frequently real marvels of restoration in severe and desperate cases have been obtained by it."

From Professor von Leyden's Berlin clinic Klemperer reports ("Publications of the Hufeland Society," 1896) "that in hydrotherapeutic effects we observe quite extraordinary and incompatible stimulation of the nervous system, which is exerted upon the various organs.

"In our clinic we regard hydrotherapy as quite an essential factor in bronchial asthma.

"Much greater is its rôle in nervous diseases of the heart—but it plays quite a powerful rôle also in organic heart diseases.

"As much more effective do I regard these hydrotherapeutic influences in stomach and intestinal diseases. Here hydrotherapy remains the most powerful factor. I may say briefly that we have treated the most varied pathologic conditions of the gastro-intestinal tract—chronic constipation, diarrhea, enteralgia, hydrotherapeutically with great benefit."

Dr. Baruch said that he might quote many "hyperboles" from the writings and lectures of the most eminent clinical teachers. These gentlemen have not been deterred by the "hyperboles of the hydrotherapists;" they have investigated the subject as have Delafield, Peabody, Osler and Draper in our own country, and have become consistent advocates.

One thing Dr. Baruch desired especially to emphasize, namely, that in his article, as in all his writings, he has never lauded water as a universal remedy. Dr. Baruch claimed that his observations in hydrotherapy were gathered in the capacity of family and hospital physician, in which respect he stands alone. As a practitioner of thirty-five years, Dr. Baruch did not feel prepared to throw aside calomel, salicylic acid, morphin, quinin and other approved remedies. Despite this fact, he felt compelled to acknowledge that water has served him well in the most desperate chronic cases after other most approved remedies had failed in his own hands as well as in the hands of colleagues. For this reason he would say with Pindar, *ἄριστον μὲν ὕδωρ*. And herein he felt himself sustained by the most eminent clinicians of the present time, whose opinions he desired to impress upon his colleagues.

Argentol as an Antiseptic.—On account of its extreme instability, argentol is superior to itrol and actol, so highly recommended by Credé, and gradually being endorsed by others, for the treatment of wounds. It is the quinaseptolate of silver and decomposes into the original oxyquinilin and silver, in contact with septic matters, each of which is a powerful antiseptic.—*Nouv. Remèdes*, April 8.

Kentucky State Medical Society.

Abstract of the Proceedings of the Forty-second Annual Meeting, held at Owensboro, May 5, 6 and 7, 1897.

FIRST DAY—MORNING SESSION.

The Society met in the County Court House and was called to order by the President, Dr. R. C. McCHORD of Lebanon.

An Address of Welcome was prepared by Dr. J. W. Ellis, but through his illness and absence, it was read by Hon. Thos. L. Petit, an eloquent response to which was made by Dr. Dudley S. Reynolds of Louisville.

The reports of the Treasurer and Secretary were read and adopted. About sixty applicants were elected to membership during the sessions. The Association then adjourned until the afternoon.

FIRST DAY—AFTERNOON SESSION.

Immediately upon reassembling, the reading of papers was proceeded with, and a series of contributions were presented on "The Fevers of Kentucky."

Dr. W. W. RICHMOND of Clinton read a paper on

REMITTENT FEVER.

He said remittent fever may be considered a secondary development of malaria, assuming intermittent fever to be the natural or primary offspring. Its different forms had been divided into the congestive, comatose and hemorrhagic, the former more properly belonging to intermittent fever in the form of a congestive chill; the two latter he assumes to be the chief irregularities of remittent fever, regarding the term typho-malarial as unscientific and one that should not be recognized, basing his judgment upon the fact that while germs of two distinct diseases may operate at the same time in the same person, and recognizing the fact that affiliation is a distinct characteristic of malaria, it was not the nature of germs to mix or to coöperate in the production of something contrary to the nature of their individual kind. It may be asked, Why in a malarious district, when intermittent fever prevails every year, do the different forms of remittent fever occur only in certain seasons and certain localities? The rational answer should be, close proximity to the place of development of the poison, its quantity or concentration, and its intensity of action.

Intermittent fever occurs to some extent every year in certain portions of Kentucky, and when there is an unusual amount of rainfall late in the spring and a late rise of the river, overflowing the bottom lands, followed by the necessary continued temperature, decayed vegetation being almost always present. remittent fever with the other forms of malaria makes its appearance.

The chief symptoms of remittent fever in its simplicity are high temperature, quick pulse, obstinate head and backache, epigastric tenderness with sick stomach, the latter often continuing throughout the entire course of the fever, which usually lasts from seven to ten days. In the case of complications the disease continues beyond that time. Cases of the disease were then reported and the treatment outlined.

Dr. B. W. SMOCK of Oakland followed with a paper on

EPIDEMIC CEREBRO-SPINAL FEVERS AS SEEN IN KENTUCKY.

The author defined this malady as a specific, infectious pandemic disease, slightly contagious, probably microbic in origin, occurring sporadically or in epidemics, characterized anatomically by inflammation of the membranes of the brain and cord, and clinically by irregular nervous phenomena pointing to profound disturbance of the cerebro-spinal functions, the most prominent of which are pain in the head and often in the extremities, hyperesthesia, contraction of the muscles of the back and neck, vomiting, irregular fever, delirium, and in several cases, coma.

As far as the author was able to ascertain, the first appearance of this dread disease in Kentucky, in anything like epidemic form, was in 1842 in the city of Louisville, and again in the same city in 1861. Since then occasional outbreaks had been noticed at different times in almost every section of the State. In Floyd County, where the author was able to make personal observations, there were in this outbreak twenty-five cases with eighteen deaths. The disease spent its force in about three weeks and disappeared almost as suddenly as it appeared.

In an epidemic which occurred in Edponson County, in February, 1896, contrary to the opinions previously held as to the non-contagious character of the disease, the author was able to trace an almost house to house infection. The disease appeared here first in a young married woman, 22 years of age, and from her seven cases developed in a few days, all of which terminated fatally.

The characteristic symptoms of the malady as they appeared during the epidemics were dwelt upon. As to medicinal measures, opium was the only drug which seemed to combat the ugly symptoms of the disease.

Dr. T. B. GREENLEY of Meadow Lawn, followed with a paper on

TYPHOID FEVER,

the history of which he said was, comparatively speaking, of modern origin. As far as he had examined the literature, he has found no account of it previous to the commencement of the present century. It was not recognized as a distinct disease in Great Britain much before 1850, being known only by the cognomen of typhus.

In 1840 Dr. A. P. Stewart of the Middlesex Hospital, pointed out the characteristic differences between the two diseases; but little attention, however, was given his views until Dr. Jenner, Physician to her Majesty, published two papers on "The Identity or Non-Identity of Typhus and Typhoid Fever." In his papers Jenner agreed with Dr. Stewart and very plainly described the characteristic phenomena of the two diseases, as did also several subsequent observers.

Dr. Greenley then dwelt minutely and exhaustively upon the causes and symptomatology of the affection, and considered at some length its pathology. He thinks the main reason why writers on typhoid fever fifty or more years ago were impressed with the belief in the personal contagion of the disease was, in many instances, due to mistaken diagnoses. Many of the symptoms of this disease were so similar to those of typhus, that the latter was taken for the former. If the author is in doubt about the true character of typhoid, when it closely simulates remittent fever, he is in the habit of testing it for forty-eight hours with quinin, the latter giving way usually in that time. For a long time the speaker has been impressed with the opinion that in many cases of summer and fall typhoid, malaria plays an active part, and he has therefore given quinin as a perfect treatment.

Dr. HENRY E. TULEY of Louisville, contributed an interesting paper on

THE SERUM DIAGNOSIS OF TYPHOD FEVER.

He began by saying that the discussion of typhoid fever at this time would hardly be complete without a consideration of its diagnosis by means of an examination of the blood. Few discoveries in the field of bacteriology or serum therapy had caused such widespread interest as the serum diagnosis of typhoid fever. Reference was then made to contributions on the subject by Dr. Wyatt Johnston, Florence Brandeis, Pfeiffer, Widal, Appel and Thornbury, and others.

Dr. Tuley gave a description of the technique of the examination of the blood as advised by Biggs and Park in their investigations in the New York City Board of Health, and which the essayist himself follows in the main. He gave a brief report of fourteen cases examined by him, which we give herewith.

Case 1.—Woman, aged 24 years. First specimen obtained during the fourth week of a typical typhoid attack, and the second on the fortieth day. Reaction was immediate in both instances. The first specimen was examined on the day it was obtained and the second after two weeks. A sample obtained from this same patient a few days ago proved negative.

Case 2.—Male, age 8 years. Clinical diagnosis, typhoid fever, maximum temperature 105. Constipation throughout. Examination after blood drawn two weeks, the reaction being prompt. The subsequent clinical diagnosis was typhoid fever.

Case 3.—Male, aged 27. Blood obtained in the second week of his illness, the clinical diagnosis being obscure. Blood examined twenty-four hours after being drawn, the reaction being very marked. The subsequent clinical diagnosis was typhoid fever.

Case 4.—Male, aged 30. Clinical diagnosis, typhoid fever in relapse. Blood obtained on the fortieth day of the attack, the maximum temperature was 103.5. Blood examined five days after being drawn, the culture was fifty two hours old and very active. The reaction was obtained. First the immobilization, then the clumping followed later.

Case 5.—Female, aged 7 years. Headaches, nose bleed, fever, abdominal pain and diarrhea. Clinical diagnosis pointed to typhoid fever. Blood examined twenty four hours after being drawn and no reaction could be tried after several trials. Subsequent diagnosis was remittent fever.

Case 6.—Male, aged 27 years. Clinical diagnosis quotidian malaria, without verification by the microscope. Blood examined after second week of illness with a very active culture, but no reaction was obtained.

Case 7.—Female, adult. Reaction present and marked. Blood obtained during the second week.

Case 8.—Male, aged about 30. Clinical diagnosis not made,

but afterward proved to be malaria. Blood examined with negative results.

Case 9.—Male, adult, City Hospital. Admitted with all the symptoms of typhoid fever. Prodromal symptoms had lasted for several weeks. The prominent symptoms on admission were epistaxis, tenderness in the right iliac region with gurgling, spots on the abdomen very closely resembling the rose spots, and low muttering delirium soon developed. Provisional diagnosis of typhoid fever. Specimen of the blood was obtained two days before his death, and examination showed no reaction after repeated trials. The autopsy revealed a tubercular meningitis, with consolidation of the right apex of the lung, congestion of the intestines with absolutely no evidence of typhoid ulceration and a small spleen. There were no pupillary symptoms during life and none that would suggest meningitis save the delirium and stupor which developed later.

Case 10.—Male, aged 35 years. Sick three weeks with what was supposed to be septicemia from an abscess on the hand. Examination of the blood obtained on the twenty-third day showed a marked and immediate reaction. There is still a difference of opinion as to the diagnosis of this case among the physicians who saw him, but the preponderance of evidence is that he had typhoid.

Case 11.—Medical student, aged 26. Clinical diagnosis was made provisionally of typhoid fever, and a pseudo-reaction was obtained after a number of trials, the clumping never being marked. The reaction that was obtained was perhaps due to a too concentrated solution of blood being used. The patient afterward developed measles.

Case 12.—Male, aged 18 years. Clinical diagnosis was malaria, but as it did not respond to quinin, and delirium supervened, typhoid was suspected and the blood examined. Quite a prompt and a very marked reaction was obtained. If this case was one of typhoid fever it was an anomalous one, as the onset was rather sudden, ushered in with chilly sensations, though there had been prodromal symptoms for more than ten days before he went to bed. In fact, the symptoms were so acute and aggressive as to suggest its being cerebro-spinal meningitis. It may have been such a case as Tyson describes under the head of "nervous typhoid."

The fact, however, that there was no reaction in case 9, reported above, on whom an autopsy was performed and a meningitis was found, would lead us to believe that this was typhoid with meningeal complications.

Case 13.—Medical student, aged 25 years. Sick four days with influenza. Blood examination negative.

Case 14.—Male, aged 40. Fever developed some weeks after an operation for radical cure for hernia was done. Clinical diagnosis was typhoid fever, but it later proved to be rheumatism. Blood examination was negative.

THE MANAGEMENT OF TYPHOID FEVER.

This paper was read by Dr. JOHN G. CECIL of Louisville. He summarized the principles of management under the following heads: 1, control the fever within reasonable bounds; 2, maintain the strength by judicious feeding; 3, intestinal antisepsis: 4, meet special indications and complications by specific agents; 5, watchful care and scientific nursing prolonged through convalescence.

In keeping the fever within reasonable bounds, without expense to the heart, lies the secret of improved mortality. The measures in common use are the Brand treatment, the sponge bath, cold pack and antipyretic medicines. These were considered in the order mentioned. Medicinal antipyretics to control fever were condemned. In importance, not second to anything in the management of typhoid fever, was the maintenance of strength by judicious feeding. That intestinal antiseptics have a place in the management of typhoid fever was quite true, but that such agents could be so applied as to counteract and destroy the bacilli, was quite another question.

In meeting the special indications that ordinarily arise, it should be done in the most direct way and with the fewest possible drugs. Medicines so applied should be directed to the control of symptoms, and are in no sense specific agents for the disease itself, until the more important conditions or complications could be noticed.

Diarrhea was an important feature. Patients properly fed seldom suffered a serious diarrhea; hence by special attention in this direction and by the use of intestinal antiseptics, it might be prevented or relieved. Tympanites, as a complication, was better treated by preventives. Intestinal hemorrhage is best controlled by allaying the fears of the patient, by absolute quiet, cold applications to abdomen, and by narcotic doses of deodorized tincture of opium. Teaspoonful doses of turpentine sometimes act with striking effect.

Perforation of the bowel in cases of typhoid was amenable to surgical interference. Recent statistics show that this is not only a feasible operation, but a successful one. For general asthenia and heart failure, nothing is superior to strychnia and good whisky.

Lastly, in no disease was the value of faithful and intelligent nursing more apparent, and if recent years had added nothing besides the trained nurse, her introduction would mark an epoch in the management of typhoid fever.

Dr. J. G. BROOKS of Paducah read a paper on

BLOODLESS AMPUTATIONS.

The author said that amputation at the hip joint was not a difficult operation, yet it was one usually attended with a great deal of shock, and to control or prevent hemorrhage would in a great measure prevent or lighten the shock. By the use of the Wyeth pins together with the Esmarch bandage a bloodless operation can be done, but the same can be said of Senn's rubber tubing alone, which the author preferred. Indeed, he could see no necessity for the Wyeth pins. He believes it is only claimed that the pins prevent the Esmarch apparatus from slipping off when the soft parts have been divided. He had made several hip joint amputations, and all save one had been successful.

FIRST DAY—EVENING SESSION.

The President, Dr. R. C. MCCHORD of Lebanon delivered his Annual Address. He selected for his subject

PREVENTIVE MEDICINE.

Those who were familiar with the history of medicine, and in memory reverted to the period when the barber's pole of today was the sign of the physician, would recall that the application of leeches gave him humble employment, and, in part, a title to his calling. He asked his hearers to observe the contrast today. He who was once scoffed at and repudiated, is now honored, trusted, and a leader in science, the recipient of national rewards and exalted honors. Medicine of today is but the outcome of the progressive spirit which dominated such active minds as Billroth, Lister, Virchow, Pasteur, Koch and many others, and a greater enthusiasm exists in its future development than the past has ever witnessed.

In his closing remarks, President McChord referred to the question of a National Department of Public Health, with an executive officer at its head, who shall be a member of the President's cabinet and have a voice in its deliberations. Let us, said he, as individuals and as a Society, join with the AMERICAN MEDICAL ASSOCIATION and other medical societies to the utmost of our capabilities, in their efforts and demand of the people outside of the medical profession and the rulers, a place of honor in their councils, which is ours by right of equity and justice. When this has been obtained and our nation has obtained the protection offered by an unselfish profession against preventable diseases, then will the demands of modern enlightenment be satisfied.

At the conclusion of the President's address, Dr. J. B. Marvin of Louisville, introduced the Hon. REUBEN A. MILLER, who delivered a popular address, in which he said that he could not unduly magnify the high and priestly office of the family physician; but in the sharp and perilous crises of life, especially in that dark hour when the home is hushed and when loving hearts are waiting to be blessed with hope or broken with despair, his very presence is an inspiration, and his words of encouragement come like a benediction. This tender relationship endears him to every hearthstone and virtually incorporates him into every family circle.

SECOND DAY—MORNING SESSION.

Dr. JOHN MASON WILLIAMS of Louisville reported cases in rectal surgery; and Dr. G. J. MONROE of the same city reported four cases of fissure of the anus.

Dr. C. C. LEWIS of Stamping Ground read a paper on "Rest versus Medicine."

The author advocated the administration of less medicine to patients. While he did not wish to be understood as conveying the idea that he had lost faith in remedies, at the same time he would urge physicians to avoid their use when other means will accomplish the end in view.

Dr. J. C. CARRICK of Lexington contributed a paper on

THE IMMEDIATE REPAIR OF INJURIES OF THE PELVIC FLOOR.

Practically there are three varieties of lacerations, which, however, vary greatly in degree and extent of the injury.

1. A clean cut median laceration, starting at the posterior commisure and passing back to a greater or less degree, directly through the middle of the perineal body, the simplest form of perineal laceration and such as produce but slight inconvenience to the woman, even when quite extensive.

2. Lacerations of the perineum involving the skin in the

median line, even as far back as the folds of the anus, associated with extensive injury of the posterior vaginal wall. This internal tear proceeds upward a little to one side of the median raphe, and often passes up on both sides of the vagina, in which event one branch of this jagged Y-shaped tear is shorter and extends more obliquely upward than does the other.

3. Lacerations of the posterior vaginal wall without any rupture through the skin. These tears are usually V shaped, one arm being longer than the other, the point of the V being situated at the posterior commisure. The technique of the operation of repairing these lacerations was described at length.

It has been said that the only objection against the immediate operation is that the laity unjustly blame the accoucheur, holding him personally responsible for the laceration and attributing its occurrence to his inexperience and carelessness. This objection can be met only in part by an honest acknowledgment on part of every practicing obstetrician and by making the laity better acquainted with the facts in the matter. The author then quoted a few statistics from well-known obstetricians regarding this point.

Credé, in 1,000 deliveries, had 392 lacerations, over 39 per cent. M. Liebman, 1,064 cases, 170 lacerations, about 15 per cent. Of these 471 were primipara, with 145 lacerations, 30 per cent.; 593 were multipara, with 45 lacerations, about 4 per cent. Schroeder found 34 per cent. of lacerations in primipara and 9 per cent. in multipara.

The frequency as to age was, from 15 to 20, lacerations 30 per cent.; from 24 to 25, 34 per cent.; from 26 to 30, 38 per cent.; over 30, 50 per cent.

The essayist then briefly reported one of his cases.

Dr. D. C. Bowen of Nolin reported a case of double castration and double herniotomy for sarcoma of the testicles, and exhibited the specimens.

Dr. C. W. Aitkin of Flemingsburg read a paper entitled

THERAPY OF ACETANILID.

The author is fully persuaded that as good, if not better results are obtained from acetanilid as from any of the proprietary remedies with which he is acquainted. In reference to the action of this drug upon body temperature, unless there is a hyperpyrexia a medium dose will not exert any influence whatever upon the body heat. He observes, however, within half an hour after the administration of a dose of from five to ten grains to an adult, who has an elevated temperature, that the patient complains of excessive heat and occasionally a slight dyspnea. This in five or ten minutes is followed by free diaphoresis; the heat-producing element of the system is decreased; the dyspnea disappears, the temperature lowers, and the patient is decidedly more comfortable.

The comfort which this drug gives patients suffering from pulmonary tuberculosis is sufficient to commend it to every physician.

The antipyretic action of the drug is only one of its many valuable properties; it is also used as a sedative, analgesic, anodyne, antispasmodic, antirheumatic, and antiseptic. In combatting pain, we have in acetanilid a most potent remedy, in that "it quiets the sensory portion of the nerves and spinal cord."

Dr. David Barrow of Lexington read a paper entitled

REMARKS ON THE SURGERY OF THE KIDNEY,

in which he said that if the physician will look for it, movable kidney would be frequently found. The gynecologist finds it in one out of six cases that consult him, some putting it as frequent as one in four. He makes it a rule to examine all gynecologic patients for movable kidney, and has been surprised at its frequency. In his experience the symptoms have been largely referable to the nervous system, but the digestive tract has nearly always been more or less involved.

That so many movable kidneys fail to produce symptoms, has caused some physicians to treat rather lightly all such cases. This, in the opinion of the author, is a mistake, for there is no doubt that many patients suffer from this condition of the kidney, who are not relieved until fixation is resorted to. The condition is often associated with pelvic disease in women, and some failures to cure after operations on the pelvic organs are due to the kidney displacement. In these cases, by fixing the kidney all symptoms will promptly disappear.

Stone in the kidney, although not common, is more frequent than is generally supposed. The symptoms are often indefinite, and the patient may suffer but little, and not infrequently the disease is never recognized. The operation for stone, if the kidney is healthy, is safe. The mortality is not more than 3 per cent. When the kidney is diseased, the mortality is much greater, probably 10 per cent. In some cases the kidney is practically destroyed, being nothing more that a large abscess sac, and a nephrectomy may be required to save the patient. The operation, until the kidney is reached, is the same as for nephropexy.

Abscess of the kidney may be due to several conditions, such as a direct blow or wound, or stone irritation; tuberculosis is frequently responsible, and occasionally the contents of a cyst will become purulent. One or both kidneys may be involved. If only in one kidney, and the abscess is single, incision and drainage will usually be successful, but if both kidneys are diseased, surgery can do no good.

Solid growths of the kidney are nearly always malignant, the great majority being either sarcoma or carcinoma. No age is exempt, and proportionately children are more often affected. Nephrectomy is the only treatment to be considered. This operation is attended with large mortality for all the conditions that require it, about 40 per cent. For malignant growths, the primary mortality is 70 per cent., and of those that recover from the operation, the great majority die of recurrence within three years. Of sixty cases of nephrectomy for renal sarcoma in children, 28 per cent. died primarily, and of the rest, only three had passed the three year limit.

Nephrectomy may be performed by either the lumbar or abdominal incision. For the lumbar operation, the author prefers a vertical incision about three inches from the spine, curving the lower end forward above the crest of the ilium, when more space is necessary. When the tumor is small, this incision will answer all purposes, and should always be the one made when there is uncertainty as to whether a nephrotomy or a nephrectomy will be required.

Dr. Curran Pope of Louisville considered the subject of "What can we do for the Chronic Invalid?"

(To be continued.)

SELECTION.

Are Malarial Diseases Air-borne?—Malaria or "bad air" is not a disease but rather a cause of malarial diseases. This being admitted, not merely from the point of view of the purist, but from that of a fact-searcher, we are prepared to welcome any well conducted study that will throw light upon every avenue of ingress of the parasite of Laveran. Dr. Rupert Norton in a paper, before the Johns Hopkins Society, maintains that malarial infection is not water-borne. Our friends in the North Carolina State Board of Health, whose health-saving work in the advocacy of a purer water supply in rural communities, we have watched with interest, are controverted in a scientific manner along with many others, whose names are given by Dr. Norton in his paper, namely Drs. Smart, West, Zwisohn, Waggener, Hyland, Daly, Norbury, Jones, Cadwallader, Newton, Quine, Lewis, Hurley, Cowan, Ross, Hehir, Rogers, Manson and others; concerning some of whom, at least, the suggestion is made by Dr. Norton that: "Is not malarial disease your weak point in diagnosis?" This suggestion very logically and profitably opens the door—not so much to polemics as to an availment of the methods of Laveran and Widal in all dubious cases, or better yet, in all miasmal cases. Dr. Norton quotes Sternberg as follows: "The facts which have been developed with reference to the transmission of cholera and typhoid fever, considered in connection with numerous recorded observations relating to the supposed development of malarial fevers as a result of drinking surface waters, have led some authors to the conclusion that malarial infection, also, commonly results from the introduction of the malarial parasite in this way. Without denying that this may occur, I am disposed to believe that much of the evidence which has been advanced in favor of this view is unreliable. In many cases the so-called malarial fevers which have been traced to the use of surface water from wells, streams, etc., have been of a 'continued type' and not controlled by quinin. In the absence of positive evidence of the presence of the malarial parasite in the blood, continued or remittent fevers which resist the specific action of quinin can not, in our opinion, be properly classed with the malarial fevers. If not due to infection by the typhoid bacillus, they are, at least, more nearly allied to typhoid than to the typical malarial fevers." With this as a kind of key-

stone, Dr. Norton builds an arch, in proof of a negation, that will bear a great deal of pressure from the "water-borne" partisans. He quotes Kelsch and Kiener, who hold that paludal infection is by the lungs, at least in the great majority of cases. They think the water-borne theory is not confirmed by facts, and that the cases on the *Argo* (a Sardinian ship, whose history is referred to in the classical narrative in Boudin's "Treatise on Periodic Fevers," 1834), do not support the theory. They say, however, that malaria may arise at sea, and relate one instance which furnishes no stronger proof than that of the *Argo*. Soldiers in Algeria, they note, who while marching drink foul water, are no more affected with fevers than when in camp using pure water. Towns on heights around the Roman Campagna are free of malaria, although their inhabitants drink water coming from malarious regions. This they bring forward as proof against the water-borne theory and say that foul water simply acts as a force to reduce the resistance of the body to morbid influences. The observations made by Italian physicians are among the most interesting we have. Celli, one of the best students of malarial fever, has written a paper of great value on this subject. It is a short article going to prove that water does not transmit malaria. He gives a chart showing that introduction of new water supply into a certain city did not diminish the number of cases of malaria. He says popular ideas on this matter are fallacious, and notes that persons may live in a malarious place and drink pure water and yet have malaria, while others in the same place drinking foul or "paludal" water do not have malaria. He himself gave water from the Pontine Marshes, which are acknowledged to be very malarious, in large quantities to a certain number of patients who had never had malaria, without its giving birth to this disease in them. Similar evidence is furnished by Salomone-Marino: "He experimented in the same manner as Celli, giving 5 to 24 liters daily of paludal water for from six to twenty-four days, and did not succeed in a single instance in producing malaria. He says that those cases of malaria which are suspected to have been caused by infection through the digestive tract are usually grave cases with short periods of incubation. He relates two such cases, which, as the blood was not examined in either case, do not furnish proof of his statement. One patient was very ill and took three weeks to recover (typhoid?). Stagnant water is likely, he thinks, to contain poisonous or noxious bodies which could produce gastro-intestinal symptoms similar to those sometimes caused by malaria. Bonizzardi, without relating any cases, concludes one short article with a number of deductions, from which I take the two following: 'Intermittent fever may be contracted as well by drinking water as by air,' and 'infection by air is far more fatal than by water.' Moscato, who has also carefully studied the question of malarial fevers, states, without furnishing any proof, that drinking water as a source of infection has been noted daily by observers: 'l'acqua potabile, come sorgente del velino palustre fu riconosciuta anche da Ippocrate; quale verita e stata anche sanzionata dagli osservatori odierni.' The statement has been made that malaria may be transported from one infected district to another healthy one by a new water supply, but the proof here is not sufficient, since the turning up of the soil for the pipes may have been the real cause. Most of the Italian observers, it is seen, are opposed to the water-borne theory." Dr. Walter Reed, of the U. S. Army, has written well on the aerial side of the case, and his contribution to this year's volume of the Reports of the Surgeon-General is mentioned with special favor by Dr. Norton. Dr. Reed has paid special attention to the cases of fever at Washington Barracks and Fort Meyer, and has examined the blood of many patients. Dr. Reed does not believe in the water-borne theory. He states that "the water supply at Washington Barracks has not been changed; it has always been the same as that of the city. The supply at Fort Meyer was changed in November, 1894, from well water to Potomac River water. The following year the men and officers drank, as a rule, filtered and boiled Potomac River water, with the result that there were more cases of malarial fever in 1895 at Fort Meyer than during any one of the previous twenty-three years. It was also higher at the Barracks in 1895 than during any of the previous twenty-three years." There is much malarial fever in the city of Washington, and it is really endemic along the river flats, but has no apparent connection with the drinking water of the city, since otherwise the people in the upper part of the city should naturally suffer as much, which they do not. The reports from the army posts are hard to analyze, since the officers in charge are frequently changed, and their personal views as to malaria and typhoid fever vary materially. But, as yet, all the evidence coming from the army posts is rather against than for the water-borne theory. The time is coming, we hope it is near at hand, when the laboratory for diagnostic and other medical work will be so well supported and utilized that the *ex cathedra* citation of authorities and classic cases will no longer be the order of the day. The busy practitioner can not hope to much longer "get along" with his thermometer and his library; he must have a laboratory, not too far distant, to help help him out in all his doubtful zymotic cases. Therefore, say we, multiply the laboratories! And, furthermore, let us have a strong National Ministry of Health. That many profitable lives and much added happiness in health are hinged upon these propositions, the future is destined to make plain either to us or to those who follow us. How soon the improvement may come we do not know, but come it will and must.

PRACTICAL NOTES.

Storbeck's Depilatory.—Alcohol 12 grams; collodion 35; iodin 0.75; essence of turpentine 1.5; castor oil 2. Apply with a brush on the affected parts for three to four days in thick coats. When the collodion plaster thus formed is pulled off, the hairs adhere to its inner surface.—*Nouv. Rem.*, April 8.

Denzel's Hemostatic Tincture.—Bibring prepares this as follows: After mixing 10 grams pulverized ergot, 20 grams alcohol and 2 grams sulphuric acid, he pours over it 500 grams boiling water and reduces by boiling to 200 grams. Then he adds 2 grams of calcium carbonate, submits the liquid to pressure, evaporates to 70 grams and adds 30 grams alcohol and 3 drops of essence of ginger, and sets aside to settle, and filters.—*Pharm. Ztng.* No. 19, 1897.

Mercurial Ointment in the Treatment of Wounds.—Majewski has been using for three years a concentrated mercurial preparation in the form of a salve, as the grease prevents too rapid absorption of the mercury. The ointment is applied in a thin layer on a piece of gauze, and very carefully restricted to the wound itself and not allowed to encroach on the adjacent normal tissue. With these precautions all kinds of abscesses, phlegmons, and wounds, contusions, etc., healed with remarkable rapidity and completeness. He reports in the *Cbl. f. Chir.*, April 10, 626 cases thus treated in 1895 and 806 in 1896, and recommends the method in high terms, to army surgeons especially. His formula is: 25.0 hydrarg. oxydat. flav. to 100.0 vaselin, applied after careful evacuation of all the pus.

Bone Transplantation as a Substitute for Amputation.—Bardenhauer (*Revue de Chirurg.*, January, 1897) has lately resorted to division and transplantation of one-half of a healthy metatarsal bone for disease and death of an adjacent bone shaft. In cases of the partial or complete destruction of one of the metacarpal or metatarsal bones, by this method he has had in several instances the most gratifying results. Twice he applied this device to exterior destruction of the lower end of the radius. He has also executed a remarkably ingenious opera-

tion for the restitution of the upper end of the humerus, by detaching the spine of the scapula from its muscular attachments, cleaving through the ridge close to its base and freeing it on either end. He then transported this segment of live bone into the gap left by the removal of the destroyed shaft. The result, as in his other cases, was successful. In young subjects the scapular spine is reproduced, care being taken to always leave the periosteal investment behind.

Gastric Neurosis.—A physician at Kissingen has had occasion frequently to observe patients sent there for the waters, with the diagnosis of gastric catarrh, whose affection was merely a form of neurosis, with excess of hydrochloric acid, and was aggravated by the saline waters. He mentions the following points for differentiation: It is frequently the result of the abuse of alcohol, tobacco, coffee or tea, but in these cases the alcohol is always taken diluted. The hydrochloric acid is constantly in excess, more or less superior to the normal, all the time, without much variation, in which it differs from the gastric form of neurasthenia, as the chemic action in this case is extremely variable from day to day. There is not continuous excess of acidity. The little gastric juice that can be obtained from the stomach is always inactive. It can not be confounded either with acid gastritis, as there are none of the symptoms of inflammatory processes in the viscera, not even the production of an unusual amount of mucus.—*Berlin. klin. Woch.*, No. 7.

Constipation in the Insane.—Alessi finds that mental troubles are aggravated when there is constipation and improved when the functions are regular. He also finds that in the melancholic forms of insanity, the intestinal atony preceded the outbreak of the insanity, while in violent mania it follows and seems to be produced by it, as there is evidently some connection between the action of the intestines and the degree of excitability of the special cerebral nerve centers. He concludes his interesting study of 90 cases in the *Gaz. degli Osp. e delle Clin.*, of March 28, with an account of a woman brought to the clinic in violent mania, which had developed suddenly that day. Inquiry of her mother elicited the fact that she had not had an evacuation for fifteen days, and the administration of 80 centigrams of calomel and 60 of scammony, restored her promptly to sanity, as the intoxication had not lasted long enough to impair the integrity of the nerve cells.

Introduction of Hydrotherapeutics into Practical Medical Instruction.—Vierordt writes from Heidelberg to the *Deutsch. med. Woch.*, (March 11) to proclaim the satisfactory results attained by the "ambulatory" hydrotherapeutic establishment connected with his policlinic and dispensary. It has been established over a year and a half, and has been found of the greatest benefit in instructing students and others who are eager to learn the technique of the successful application of hydrotherapeutics, in connection with the their general medical training. Winternitz has an institution of the kind in Vienna, but he makes a specialty of it. Vierordt deprecates this, and merely urges the introduction of such an adjunct to the dispensary as a minor branch of the regular curriculum. It has been found a great boon to many patients who derive great benefit from this treatment while they are able to pursue their usual occupations. One of Vierordt's assistants has the supervision of the establishment and resides there.

Ovarian Tumors.—D'Urso concludes as follows a comprehensive study of twenty-one observations, most of them personal: 1. In the cortical substance of the normal ovary there are remains of germinal epithelium in the form of cystic formations, which sometimes present the appearance of modified sweat glands. 2. The Kobelt tubes of the mesosalpinx in the adult have sometimes irregular and papillary outlines. 3. The tubes of the epoöphoron penetrate into the hilus and the medullary substance, and produce cavernous papillary formations, besides the isolated tubulous. 4. There are also found in the mesosalpinx, altogether at the abdominal end, small knobs of epithelial tubes, which proceed from the remains of the Wolffian body. 5. The cysts of the ovaries and broad ligaments can be classified into: *a*, cystic adenoma, glandular neoplasms formed from the epithelial remains of the cortex; *b*, simple Wolffian cysts; *c*, papillary Wolffian cysts, developing from the epithelial remains in the hilus and mesosalpinx, without glandular formations. 6. Malignant papillary cysts present a peculiar proliferation of the epithelium, contrary to malignant papillary Wolffian cysts. 7. Dermoid cysts show evidences of transformation from simple cysts to true teratomas. Some can be traced to fetal contents, others probably to embryonal development from the ovum cell. 8. Ovarian fibromas can develop in the connective tissue of the corticalis, independently of the corpora lutea and the regressive metamorphoses of the Graafian follicles. 9. Among the simple, connective tissue ovarian tumors, endotheliomas often occur, not infrequently malignant, which can not be explained by peculiarities in the histologic structure. He has nothing to say in regard to the histogenesis of alveolar sarcoma and endothelioma except the query whether the theca folliculi may not be the matrix. 10. There is a simple true epithelioma of the ovary; it develops very slowly and probably originates in the epithelium of the papillary embryonal remains of the hilus.—*Cbl. f. Chir.*, April 10.

Fatal Polyneuritis Following Mercurial Treatment of Syphilis.—Brauer (*Berliner klinische Wochenschrift*, March 29 and April 5, 1897) has reported the case of a man, 24 years old, with a good family and personal history, who was treated for five weeks with mercurial inunctions for syphilitic infection, beginning with forty-five grains daily, later increased to sixty grains. At the end of a month, in the absence of stomatitis or salivation the patient noticed numbness in the hands, which became partially flexed. There was also twitching of the small muscles of the hands and of those upon the flexor aspect of the forearms. The arms appeared weak, while the legs seemed normal. In a short while disturbance of vision manifested itself, with confusion and double sight. The gait became uncertain and staggering. In the course of the succeeding day numbness appeared in the legs, with twitching of the calf-muscles and inability to stand and to walk. When in bed the man was able to move the legs quite freely. On the third day articulatory disturbance of speech was noticed. The movements of the lips and tongue were interfered with, and deglutition was difficult, only liquids being swallowed. Twitching of the face was present, especially about the eyes and the mouth. In the course of eight days this ceased, although that in the hands and legs continued. The weakness also persisted. The ocular disturbance disappeared. At no time was there fever or pain. Later, weakness of the bladder manifested itself and there was an absence of erections. Pain in the sacral region appeared, but no girdle sensation, no palpitation of the heart, no dyspnea. After this improvement the patient gradually grew worse again and symptoms of secondary syphilis made their appearance. Mercurial treatment was resumed, intramuscular injections of gr. $\frac{1}{3}$ of a mercury salicylate being given twice weekly. Following this the syphilitic symptoms disappeared, but the others were aggravated. The urine presented no abnormality. The pupils were active in their reactions and there was no nystagmus and no ocular paralysis. The face was puffy and expressionless, but not edematous. The left naso-labial furrow was not as marked as the right and the left angle of the jaw drooped a little. There was no appreciable atrophy of the facial muscles and no fibrillary twitching. Sensibility was not obviously deranged. The tongue was not atrophic. The palatal reflex was preserved and speech now presented no defect. The larynx appeared to be normal. There was no disturbance of the special senses. The arms and legs pre-

sented symmetric marked paresis, most pronounced at the periphery. There was no rigidity. The atrophy was proportionate to the degree of weakness. There were no trophic disturbances. The movements were ataxic, but there was no tremor. In the affected portions sensibility was impaired in all its forms. The tendinous and the periosteal reflexes were wanting and the cutaneous reflexes diminished. The paretic muscles exhibited fibrillary contractions. Some of the larger nerve-trunks were tender on pressure, but the paretic muscles were rather more so, and they presented also partial reaction of degeneration. The action of the sphincters was weakened and constipation existed. Later a sense of stiffness appeared in the muscles of the face, together with reaction of degeneration. Finally dyspnea set in and became aggravated in attacks of asphyxia from paralysis of the diaphragm. Death took place four months after the appearance of the first symptoms, in consequence of bilateral pneumonia of the bases, which was confirmed at the postmortem examination. The brain, the cord, a number of spinal ganglia, a number of peripheral nerves and a number of muscles were carefully examined. The most marked changes were found in the nerves, which presented degeneration of their medullary sheaths with thickening of the perineurium. No changes were found in the blood-vessels. Only slight changes were found in a number of the ganglion-cells of the anterior horns of the cord. The muscles were but little changed. From a careful consideration of all of the elements of the case the conclusion is reached that the symptoms were not dependent upon demonstrable anatomic syphilitic lesions, though perhaps upon the toxic products of the syphilitic infection. It is not believed that the mercury had alone any influence in the development of the changes in the nerves, although it is not denied that the action of the mercury, by depressing the general bodily vigor, may have favored the activity of the syphilitic poison.

Anti-venomous Serum of Calmette.—Dr. Hazard, of the French Colonial Service, reports a case of recovery from snake bite after injection of Dr. Calmette's anti-venomous serum. In December last at Martinique a soldier, aged 23 years, was bitten in the left thumb by a vigorous trigonocephalus (bothrops lanceolatus), nearly five feet in length. When the accident occurred the man was in a squatting position, but although he instantly jumped to his feet the action failed to dislodge the reptile, which remained for some moments firmly fixed to his digit, and it was not until he struck it on the head with his fist that it relaxed its grip and fell to the ground. There were two punctured wounds about half an inch apart, one of which was bleeding slightly. With a penknife the soldier enlarged it superficially, and he sucked the place three or four times. An officer then bound a ligature tightly round the root of the thumb, and dispatched the man to the hospital, where he arrived breathless from running some ten or twelve minutes after receiving the bite. To save time he was attended in the office. Ten cubic centimeters of anti-venomous serum (which had been received from Lille in the course of the preceding month) were subcutaneously injected into the patient's left flank. The seat of injury was washed with hypochlorite of lime, and five cubic centimeters of the latter solution having been injected into and around the punctures, the constricting ligature was removed. Soon afterward the principal medical officer arrived at the hospital, and the case being in his opinion very grave, he ordered a second injection of ten cubic centimeters of serum, as well as a second local injection of four cubic centimeters of the hypochlorite. The patient was then put to bed under several blankets and given strong coffee to drink at frequent intervals. For forty-eight hours he complained of darting pains in his arm, loss of appetite and sleeplessness—the last symptoms being no doubt due to the coffee—but with these exceptions the indications were entirely favorable. There was no local tumefaction, and the axillary glands remained unenlarged. On the fifth day the man had perfectly recovered and was discharged to duty. Immediately after he was bitten he says his forearm became heavy and numb, as though it were asleep, and neither the incision he made himself nor the hypochlorite injections caused him the least pain. This anesthesia only lasted a few hours, the sense of feeling being fully restored by the next morning.—*Archives de Médecine Navale et Coloniale*, March.

Spontaneous Hemorrhage in the Vitreous Body, or "apoplectic eye," offers an unfavorable prognosis unless effective treatment is instituted at once to prevent the occurrence of the same hemorrhage in the other eye, when the patient becomes totally blind. Professor Panas remarks that it is usually consecutive to syphilis, gout, alcoholism or nasal affections, and therefore the blood should be disinfected, alcohol replaced by milk, the nasal passages rendered antiseptic, and he administers, even when there is no syphilis, biniodized oil as a general antiseptic, in 4 milligram injections, supplementing it later with hypodermic injections of arsenic, as he has witnessed a supposed double sarcoma of the orbit vanish completely with the administration of sodium arseniate alone. He concludes his study of the subject in the *Presse Méd.* of April 3, by calling attention to the infective nature of such troubles, which involve the highest questions in general pathology.

Resection of the Gasserian Ganglion for Rebellious Facial Neuralgia.—Marchant and Herbert (*Revue de Chirurgie*, April 10, 1897, p. 286) report two cases of extirpation of the Gasserian ganglion for the relief of rebellious facial neuralgia and they analyze ninety-three additional cases collected from the literature. Among the whole number there were seventeen deaths (17.8) per cent. In sixty-six the temporal course was followed, with eleven deaths (12.12 per cent.), three of which were open to doubt. In twenty-nine the pterygoid course was followed with six deaths (20.6 per cent). Among fifteen cases of complete extirpation of the ganglion there were five deaths, three of which were open to doubt (13.13 per cent). Among sixty cases of incomplete extirpation there were eight deaths (13.33 per cent.) Among fifteen cases of simple resection of the painful branches there was but a single death (a mortality of 6.66 per cent). From a study of the literature of the subject the conclusion is reached that certain rebellious facial neuralgias originate in the Gasserian ganglion, and the only treatment of these cases consists in destruction of the ganglion. When no appreciable lesion of the ganglion existed and its removal was none the less followed by a disappearace of the neuralgia, this result is to be explained by the destruction of a nervous center containing neurons or nervous cells whose prolongations only are affected by simple section of the nerve. The temporo-sphenoidal course is the best to follow for the removal of the ganglion. The finding of one of its branches and especially the inferior maxillary in the oval foramen constitutes one of the most certain guides for the detection and seizure of the ganglion. The ganglion may be completely extirpated. Commonly the extirpation is incomplete and the ganglion is finally destroyed by curetting and crushing. Often only its branches have been resected. Hemorrhage, wounding the nerve and cerebral compression are the immediate operative accidents to be feared. Secondarily there may be infection, hemorrhage, iodoform intoxication, ocular disturbances and otitis. As an immediate result of the operation there is a cessation of pain and also an abolition of general sensibility in the distribution of the three branches of the nerve and especially in the second and third branches: but this does not persist long. Taste, smell, hearing and vision are variously affected. The movements of the jaw may remain impeded. From a therapeutic point of view recurrence is less to be feared after destruction of the ganglion than after simple resection of the branches. The evidence indicates that complete extirpation should be superior to simple destruction of the ganglion.

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SATURDAY, MAY 15, 1897.

MEETING OF THE AMERICAN SURGICAL ASSOCIATION.

The last meeting of the American Surgical Association was notable for the large attendance, the number of scientific papers read and the interest manifested in their discussion. The president, Dr. J. COLLINS WARREN, selected as the subject of his address, "The Influence of Anesthesia on the Surgery of the Nineteenth Century," in which he gave a short history of anesthesia and showed its influence in broadening the field of operative surgery. In his paper on "The Indications for and the Technique of Hysterectomy," Dr. HOMANS laid down clear and reliable rules which should govern the surgeon in the selection of cases, and gave sound advice by what route and by what method the uterus should be removed for different pathologic conditions. The paper was ably discussed by Drs. VAN DER VEER, MUDD and LANGE.

Dr. J. W. WHITE's paper on "The X Ray in Surgery" was profusely illustrated by skiagraphs showing the value of this new and valuable diagnostic resource. Dr. DEFOREST WILLARD exhibited also a very valuable collection of X-ray pictures, most of them illustrating bone and joint affections, fractures and dislocations. One of the most valuable contributions was the one by Dr. BRADFORD on "Tendon Anastomosis." Tenoplasty was first suggested by NICOLADINI. There are now about sixty-seven recorded cases in which this procedure has been resorted to with advantage in the treatment of paralysis following anterior poliomyelitis. The paper was made clear by numerous well-executed drawings. Dr. BRADFORD'S experience in substituting a "living" for a "dead" muscle by tendon anastomosis has been encouraging. Dr. SOUCHON'S paper on "The Operative Treatment of Irreducible Dislocations of the Shoulder, Recent or Old, Simple or Compound," evinced a painstaking search in gathering reliable statistics upon which to base a safe practice. It must, however, be remembered that statistics are often deceptive and misleading. Surgeons, as a rule, are more anxious to report their successful than their unsuccessful cases. There can be no question that in cases of irreducible dislocation of the shoulder joint, recent or old, when manipulation fails, reposition by operative measures is warranted. It appears that such operations are more prone to be followed by infection than operations for other pathologic conditions of the same joint, a fact which should induce the surgeon to resort to the minutest details in securing asepsis. Dr. J. B. ROBERTS' paper on "The Surgical Treatment of Suppurative Pericarditis" is a valuable contribution to surgical literature and a worthy addition to his monograph on "Paracentesis of the Pericardium," published a number of years ago.

The unveiling of the statue of the late Prof. SAMUEL D. GROSS was a solemn and impressive occasion. Dr. C. H. MASTIN, who conceived the idea of such a tribute to the memory of America's greatest surgeon, and who did more than any one else in securing the necessary funds, presented the statue to the United States Government in an eloquent speech. General STERNBERG was selected by the President to receive the statue for the United States. Surgeon-General STERNBERG'S speech was a glowing tribute to the character and scientific work of Dr. GROSS. The address of Dr. W. W. KEEN, the successor of Dr. GROSS, was well worthy of the great occasion and was a beautiful eulogy commemorating the life, character and professional work of his illustrious predecessor. Thanks to the efforts of Dr. C. H. MASTIN and others, the beautiful grounds of the Smithsonian Institute in front of the Army Medical Museum are now graced by the noble bronze statue of one beloved by all, honored and respected by all of his pupils and professional colleagues.

The paper of Dr. TIFFANY on the "Technique of Cranial Surgery" was replete with practical details of the different intracranial operations and was fully discussed by Drs. KEEN, WEIR, PARMENTER and MIXTER. Dr. TIFFANY called the attention of the members of the Association to the advisability in serious cases of intracranial operations in doing the work in two instead of one operation. The first operation should have for its object the creation of the

cranial defect, and often the wound has healed in the course of two or three weeks, attack the intracranial lesion through the soft tissues covering the cranial defect. This suggestion received the warm support and endorsement of Dr. KEEN. Dr. McF. GASTON reported a case of inoperable sarcoma cured by electrolysis and cataphoresis, combined with the internal use of Donovan's solution. Although the diagnosis of sarcoma was confirmed by microscopic examination of the tumor tissue some doubt still must remain as to the nature of the affection owing to the muscular results following the treatment as described.

Dr. DUDLEY P. ALLEN read a paper on the "Origin of Appendicitis," profusely illustrated, in which he took the ground that the most frequent cause of appendicitis is obstruction of the organ from congenital flexion. He illustrated, by the drawings which he presented, the muscular hypertrophy which follows mechanical obstruction. The mass of the profession will hardly endorse such a mechanical condition as a prominent etiologic element in the causation of appendicitis, as flexion is probably more frequently caused by antecedent inflammatory affections than by a congenital defect.

Other interesting papers were read by Drs. FENGER, POWERS, FORBES, RANSOHOFF, HART, PARKHILL, JOHNSTON, BURREL, ELLIOT and RICHARDSON. The forthcoming volume of transactions will be one of unusual interest and one which will show the higher character of the work done by its members from year to year. The work of the Association in the Congress of American Physicians and Surgeons was represented by a discussion on the "Classification, Prognosis and Treatment of Acute Peritonitis." Dr. SENN discussed the classification, Dr. ABBE the prognosis and Drs. DEAVER, MCCOSH and FOWLER the treatment. The Association numbers now eighty-nine members, leaving but eleven vacancies. Dr. PREWITT of St. Louis was elected president for the ensuing year and New Orleans was selected as the place for holding the next meeting.

THE AFTER-CARE OF THE INSANE.

The American Neurological Association through a committee of which Dr. HENRY R. STEDMAN is chairman, is engaged in a movement that deserves the full support of not only the medical profession, but of all those who are at all philanthropically inclined. It is a preliminary inquiry as to the best means for providing for patients discharged from asylums for the insane, especially during the first weeks or months after their release. It is a well-known fact that the recovered lunatic, if dependent upon his own devices, suffers from special disadvantages and that the hard lines of life that may have been the direct cause of his mental breakdown are likely to be even more his lot on his release. A convict who has served his time is better off in a purely temporal point of view, he has more resources and, unless he is what it is to be feared the most of them are not, a reformed man, he is simply replaced upon his old footing. The law, moreover, generally provides that he starts out with a small sum of money, not much it is true, but something to meet his immediate necessities. There are also organizations that look out for released criminals; he has the sympathy and help of good people if he is reformed, and the ready fellowship of his old associates if he is not. The recovered but friendless lunatic on the other hand is liable to be thrust on a cold world with nothing in his pocket and a certainty that a knowledge of his misfortune is almost an insurance of distrust and repulse of all his efforts of self-support. The consequence is too often a relapse to his former state or a worse one and the multiplication of chronic cases and charges upon the public.

It has been the custom in some of our asylums to provide some employment at such small wages as their resources would admit, for recovered patients, for a short period, so that they did not start out penniless, and could say that they had already had employment, thus modifying to some extent the stigma (in the popular estimation) of their insanity. It afforded them at least a chance for a sort of justifiable *suppressio veri* as to their antecedents in starting out again into the competition of active life. A large institution could thus provide for a limited number, but of necessity many more would fail of this provision. In France there have existed for some time what are called *sociétés de patronage* or aid societies for discharged patients from the asylums and they have worked so well that, while limited at first to a single department, they have lately been adopted by the government and generalized throughout the country. Similar organizations have been started and in operation for some time in other countries under private auspices, and the movement seems likely in time to become universal throughout Europe.

It is not particularly to the credit of this country that we are behind any other in this matter and the present action by the Neurological Association is a timely one. It is desirable that the system devised be one adapted to this country and, if possible, an improvement on any existing one. For this reason the committee have sent out circulars asking the views of superintendents and others as to what are in their opinion the best plans for the after-care of the insane. The answers to these inquiries are utilized in a report which will form a basis for future plans and it is to be hoped will be the starting point of a very useful charity.

The question whether this after-care of the insane should be provided for at the expense of the public funds or as a private charity, is an important one and is one of those in the circular sent out by the com-

mittee. There are some very good reasons why a separate establishment for the oversight and welfare of discharged lunatics would be better under private auspices; it would be free from political interference, and as residence there would be purely voluntary it would require no State inspection. It would or should be simply a home where discharged patients can stay under friendly oversight and if possible do something for their self-support, and from which, if desirable, some oversight can be exercised for their welfare even after they are no longer in residence. An absolute disconnection from the asylum will be, for some cases and in some respects, an advantage; a complete change of scene and associations is often as useful for perfecting a recovery as is the change from home surroundings to the hospital for primarily inducing it. A private charity of this kind ought, if properly conducted and controlled, to be better insured against certain disadvantages to which our public institutions under their present systems are liable, and its voluntary support by those who are able and willing to give it, will be a relief to the constantly increasing public expenses.

The State can, however, usefully aid in this matter, and at slight cost, by continuing and extending the practice, already mentioned as existing, of giving temporary employment at very moderate wages to impecunious patients who, while practically recovered, yet are better for a certain degree of care and observation before being sent out to depend upon their own resources. There are, in a large institution, numerous opportunities for utilizing advantageously the services temporarily of such patients, and many of them are very glad to avail themselves of the chance. When they finally leave the institution they are already in the way of earning their living and their insanity is sufficiently in the past to be no longer a stigma and an embarrassment, as it would be had they left it immediately as discharged patients. A very small additional appropriation would go a great way in providing for such cases and should perhaps be as judicious and advantageous an employment of public funds as any that can be devised. The hospital would thus care for certain special cases, leaving others to the aid societies outside, and by both methods combined a much better future is opened to the recovered lunatic. With one or both of these resources at his command, the often sorely puzzled head of a hospital for the insane will be greatly relieved and the extent of his therapeutic resources materially increased. There are also cases that can not be safely discharged under the conditions that exist too largely at the present, whose friends, if they have any, are afraid to receive them, and yet to whom further detention in an asylum is a positive detriment and may turn the scale in favor of their permanent insanity. If these aid societies can also meet the needs of this class, who are often perfectly suited for their care, their usefulness will be largely augmented.

All these matters have undoubtedly been fully considered by the committee of the Neurological Association, and the publication of its report will be awaited with interest. It is to be hoped that it will be the direct inciting cause of a new and exceedingly useful application of public and private benevolence.

MEDICAL CONSIDERATION OF THE METHODS OF PUBLIC EDUCATION.

The popular idea of education seems to be a filling of the mind with a conglomerate collation of truths and untruths conveniently designated as knowledge, by a systematic process of cramming from text-books and lectures, mechanically pursued and methodically planned, regardless of individual capacity and mental and physical temperament. A natural sequence of such a procedure is a desire on the part of the student to further cram the burdened mind with a smattering of every possible subject not already thrust upon it, by the indiscriminate reading of books, newspapers and magazines. This corollary to modern "educational methods" is highly commended and apologetically called by its progenitive Solons "the modern thirst for knowledge."

Nothing could be more fallacious than such conception of education. The very etymology of the word disproves it. Anyone with the slightest knowledge of philology should know that education does not mean a putting in, but, the direct converse, a drawing out. Realizing the error of some of the so-called educationalists, Dr. SHUTTLEWORTH, in an address before the British Medical Association sagely says, "Bearing in mind the physiologic interdependence of bodily and mental development, we may say that true education consists in processes of training which will produce in a given individual the most favorable evolution possible of all the faculties both of mind and body. A rational educational system will recognize the fact that all children are not cast in the same mold; that there are inherent, often inherited, differences in each pupil's powers, and that, to obtain the best results, instruction must be adapted to idiosyncrasies and proportioned to varying capacities. . . . From the medical standpoint we shall reply in the affirmative to the query of PLATO: 'Is not that the best education which gives to the mind and to the body all the force, all the beauty, and all the perfection of which they are capable?'"

What a sad contrast to these beautiful principles is the public system of education in vogue in this country at the present day! Rigid rules as to definite standards of acquirement, regulated chiefly by age and not by the varying capacities and different temperaments, make the backward and deficient children the martyrs to the baneful influence of excessive hours of study, or

failing in their requirements, render them indifferent to a righteous pride. Stimulated to active competition by praise at home and honors in school the more intelligent are slaves to their unfortunate ambition. The willing and anxious child is virtually worked to mental and physical dissolution by thoughtless teachers, aided by the fondest of parents to whom the physical conditions underlying mental evolution and critical epochs of development are unknown.

In this country particularly are these circumstances deleterious to the health of the growing race. The average American child is not only mentally precocious, but is of a peculiar neurotic temperament, which, while increasing its mental capacities beyond that of the child of other countries, at the same time renders it more susceptible to mental over-strain and nervous exhaustion. Again, the age of greatest strain is shortly after puberty, a period which, particularly in girls, has been justly considered of "profound nervous and neuro-physiologic import." The headaches, backaches and the rest of the common ills of our American girls, are often directly attributable to excess of study and misdirected efforts at education during critical periods of development.

In our public system of education the mental overstrain is required just at a time when minimum study and maximum outdoor exercise and recreation are demanded. We heartily endorse as applicable to the American system of public education the reforms which Dr. SHUTTLEWORTH advocates in the British high-school system, namely, 1, amendment of excessive hours of study, especially during spurts of growth and development; 2, correction of the deficiency of systematic outdoor exercise and recreation, and 3, more regard of physiologic functions differentiating the capacity for work at certain times of girls as compared with boys.

ACUTE LEUKEMIA IN CHILDHOOD.

Leukemia is usually a disease of insidious onset and slowly progressive course. Occasionally, however, it makes its appearance with the abruptness of an acute infection, being attended with febrile symptoms and other manifestations of constitutional disturbance. Of the etiologic influences we know little, if anything. The disease has been observed in connection with malaria, syphilis, other infectious diseases, traumatism, over-exertion and profuse hemorrhage. It has developed during pregnancy, and sometimes an hereditary predisposition has existed. The disease has also been observed in some of the lower animals. Males seem to suffer more commonly than females. No age appears to be exempt, though it is probable that the disease is most common during the middle period of life.

To the rather small list of cases of acute leukemia in childhood THEODOR (*Archiv für Kinderheilkunde*, B. xxii, H. 1, 2, p. 47) adds the report of an additional instance, together with an analysis of all that he has been able to gather from the literature. The case occurred in a boy, four years old, previously healthy and well nourished, who fell from a horse that he was being taught to ride, striking his face and nose. Copious epistaxis followed, which failed to yield to the ordinary remedies at hand, and only ceased after ten hours, upon plugging of the nares by the medical attendant. It was at this time first observed that there were present on the extremities a number of large and small hemorrhagic extravasations, which were attributed by the parents to contusions received in various ways. Examination showed further the spleen to be slightly enlarged, and the blood exhibited the characteristic conditions of leukemia, with a preponderance of lymphocytes.

In the further course of the case the temperature became moderately elevated; hematuria appeared, with the presence of hyaline and granular tube-casts, and the cervical, axillary and inguinal glands became enlarged. There was at no time pain referred to the bones. Under treatment with abdominal compresses, inunctions of iodvasogen, arsenic and preparations of blood and bone-marrow, in conjunction with fresh air, distinct improvement set in for a time, but subsequently the symptoms returned and death took place in the sixth week of the disease from pulmonary edema. A postmortem examination could not be secured. Bacteriologic examination of the blood failed to disclose the presence of pathogenic organisms. The father of the child had been syphilitic.

Of the forty-five cases of acute leukemia only six occurred in children under the age of ten years. Only those are considered in which the disease did not last longer than nine weeks. Up to the age of fifteen years there were four additional cases. Of the whole number twenty-five were in males, thirteen in females, while in seven the sex is not specified. The patients varied in age from two and a half to fifty-nine years.

MALPRACTICE IN WEST VIRGINIA.

Dr. THOMAS R. EVANS of Charleston, West Virginia, states in a recent number of the *Medical Record* that the statutes of West Virginia are in a decidedly antique condition as regards malpractice suit. According to Dr. EVANS any physician or surgeon who "resorts to any expedient whatever," may be mulcted in heavy damages in case his patient dies; and he is not allowed to testify in his own behalf, nor can any other person testify for him. Finally, there is no stated time when such a suit can be outlawed. Dr. EVANS declares that one medical man was recently under this enactment condemned to pay a fine of $10,000. The first part of Dr. EVANS' charge against the West Virginia statutes ignores completely the fact that this is a part of the common law principle of due diligence

which has protected so many practitioners in malpractice suits. The practitioner is only required to show that he had the ordinary skill of his profession and that he exercised this in the given case. If he adopts new procedure the burden of proof would rest on him to show that these were suited to the particular case and were merely an extension of the ordinary principles. As TRACY C. BECKER remarks (WITTHAUS' "Medical Jurisprudence"), experimentation, whether upon charity patients or pay patients, is equally prohibited by well settled rules of law. In other words, a departure from known methods of treatment for the purpose of, or by way of, trying unknown remedies or operations not usually adopted by the profession, if an unfortunate result occurs, renders the defendant liable (McNevins v. Lowe, 40 Ill., 209). What constitutes reasonable care and skill is, BECKER remarks, a mixed question of law and fact, like any other question of negligence. Where the evidence is undisputed and no conflicting influences can be drawn from the facts presented it is the duty of the court to determine whether or not there is sufficient proof of want of ordinary care and skill to be submitted to the jury. Where, however, the evidence is conflicting on that point or the inferences to be drawn from the facts established might be differently drawn by different men having the same opportunity for observation, and the same circumstance before them, it is for the jury to say whether or not the defendant has exercised reasonable care and skill guided by proper directions from the court as to the measure of skill required. These involve the question as to how far the practitioner is bound to be familiar with the methods, appliances, drugs and methods of treatment of his profession in general. The rules of evidence which, Dr. EVANS states, are part of the West Virginia statutes, are so destructive of the constitutional rights of citizens of the United States that there is no doubt but that the Supreme Court of the United States would declare all such statutes unconstitutional. While there has been a great deal of what has been called "freak" legislation lately, statutes of the type described are clearly relics of "old dominion" days when law was largely made for the purpose of enriching the king by forfeitures in case of felony.

THE JOURNAL SPECIAL TRAIN.

Medical gentlemen from Illinois and vicinity, the Pacific Coast and the Northwest, who intend to be present at the great jubilee meeting of the ASSOCIATION, are invited to take the JOURNAL SPECIAL, which will go by the Pennsylvania Railway without change from Chicago to Philadelphia. The time limit of ten days is as long as granted by any other route. See advertisement in another column, and make no mistake. The JOURNAL guarantees the most perfect of modern railway equipment.

CORRESPONDENCE.

What Is Wrong with This Prescription?

CHICAGO, April 27, 1897.

To the Editor:—I should be very much obliged if you could have the following questions answered in the columns of the JOURNAL.

Some time ago I was called to see a sick lady and prescribed the following ingredients in capsule. Each capsule contained:

Sod. salicyl.	gr. $2\frac{1}{2}$
Salol	gr. $2\frac{1}{2}$
Codein	gr. $\frac{1}{8}$
Hydrarg. chlor. mite	gr. $\frac{1}{8}$

The patient took only one and within half an hour became very sick, developing severe poisonous symptoms, and later becoming unconscious and extremely depressed, etc. Now I should like to know: 1. What ingredients, if any, were incompatible? 2. If incompatible, what product was formed? 3. If a poison were formed what dose would ordinarily prove fatal? 4. What would be the physiologic action on the various systems, as nervous, urinary, digestive, etc.? 5. What would the mental effect be? 6. What other effects, if any, would be produced on the individual?

I have withheld the symptoms in this case as observed, in order that the answers might not be influenced by a description of them. Yours very respectfully.

M. D.

Syphilis and Drunkenness.

KANE, PA., May 8, 1897.

To the Editor:—In closing a recent editorial entitled "Legislation against Degeneracy," (April 17) our editor touches the key-note of the situation. Having clearly proven in the preceding paragraphs the futility as well as the injustice of all legal restriction imposed upon the marriage of epileptic and insane, he ends by saying: "The only real safeguards against the propogation of degenerates are to be looked for in the higher moral education of the public and the cultivation of practical moral standards."

How are we to attain these practical moral standards? As our editor remarks, immorality and illegitimate births will be greatly increased if we are to render it illegal for those of epileptic, insane or tubercular tendencies to marry. While, too, it can not be denied that their taints do often exist as an inheritance, it is equally true that, given a suitable environment and mental, moral and physical cultivation the children of just such alliances may grow up sound in body and mind, frequently proving themselves even the superiors of their more careless as well as more fortunate neighbors.

The practical moral standard should be raised and our nation properly educated to a realizing sense, not of the danger in alliances of the epileptic, insane and the tuberculous; for their condition, though the result of an inheritance is but an indication, a symptom, of a far reaching and more dreadful condition from which they usually result, and as I said they may live down their defective and diseased condition.

We should raise our standard of temperance and chastity and our legal enactments should be directed against the social evil, syphilis and drunkenness.

While few deny that tuberculous, epileptic, insane and neurotic parents tend to produce like conditions in their offspring none can deny a far more potent cause for all these conditions and a multitude of others. This is the drunkenness and debauchery which is adding to the number of dipsomaniacs and syphilitics and is so appallingly on the increase of late years.

These are met with everywhere and in all ranks of life. They fill our hospitals, insane asylums, almshouses and prisons. They create hordes of tramps and criminals to over-run our

country and propagate disease, while they teach immoral practices.

For every epileptic, tuberculous and insane person who inherits his condition from a parent similarly affected, at least ten bear their disease as the result of a parent's debauched life or inherited syphilis or of the drunkenness of the father at the time of conception, or the prolonged indulgence of one or both parents in alcoholic liquors, tobacco and other narcotics.

Yet despite the well known truth of my present assertion the medical profession advises a higher standard of education and rigid legislation chiefly against trivial matters, such as the expectoration of tubercular sputa, the communion cup and marriage in insane and tuberculous families. At the same time they would countenance the legalized saloon and brothel where a business is made of seducing and debauching our girls and boys, polluting their pure minds and contaminating their sound bodies.

One might with as much reason regulate the method of conduct and improve the morals of a mad dog in order to prevent hydrophobia as to strain at the gnats of epilepsy and tuberculosis while he swallows such camels as syphilis and drunkenness.

Is it not high time that the profession becomes aware of the true source of the diseases which are devastating our country and taxing its resources to their utmost to find institutions large and numerous enough to hold the victims.

EVAN O'NEILL KANE, M.D.

Compact Portable Sterilizer.

NEW YORK, May 6, 1897.

To the Editor:—Dr. Wetherill's description of a "compact portable sterilizer for surgical instruments and dressings," (May 1, page 856) shows the need he experienced of demonstrating, in a feasible manner, the ease with which sterilization can be obtained anywhere and everywhere, thus taking from surgery the greatest impediment to success.

This is especially gratifying to me, particularly as Dr. Wetherill, to whom the thanks of the profession are due for his lucid description, publishes an exact counterpart of my nested sterilizer, which was shown at the forty-sixth annual meeting of the AMERICAN MEDICAL ASSOCIATION in Baltimore, May 7, 1895, at the Berlin exhibition last summer and which was described in the JOURNAL, July 27, 1895, and more fully in my little book on "Surgical Asepsis," page 119, published by Saunders of Philadelphia in March, 1895.

Those who know Dr. Wetherill will appreciate that this note is in no sense a stricture upon his above mentioned letter. I merely pen these lines to call his attention to the facts so that he may at his convenience, correct any misapprehension that may arise regarding the origin of this sterilizer. I know Dr. Wetherill will do this as readily as would yours very truly,

CARL BECK, M.D.

ASSOCIATION NEWS.

Executive or Business Committee.—The first meeting of this Committee will be held in Parlor C, Hotel Walton, cor. Broad and Locust Streets, Philadelphia, on Monday May 31, 1897, at 5:30 p.m. Subsequent meetings will be held at the same place and hour, unless otherwise ordered by the committee, for the consideration of matters referred to it by the ASSOCIATION, and for the transaction of business.

L. DUNCAN BULKLEY, M.D.,
Secretary of Committee.

Medical Aid Section.—An effort will be made at the approaching Semi-Centennial of the ASSOCIATION in Philadelphia, to complete the organization of a Medical Aid Section for the benefit of disabled physicians and of the widows and orphans of physicians, members of the Section, with the coöperation and endorsement of the several State and municipal medical societies; the friends of such Section of a Medical Aid Society hope to organize and have appointed all the officers required to make the Section a corporate body of the ASSOCIATION and to convince the profession, that those now throughout the country who are non-members will find it to be to their advantage to join our ranks.

Section on State Medicine.—The annual dinner of this Section will be held at 8 o'clock, Tuesday evening, June 1, at the Aldine Hotel. Those who desire to join with the Section at this dinner in celebration of the twenty-fourth anniversary of its organization, are requested to notify the chairman, Elmer Lee of Chicago, or the secretary Louis F. Bishop of New York.

Section on Diseases of Children.—Dr. J. A. Larrabee, the chairman of the Section on Diseases of Children of the AMERICAN MEDICAL ASSOCIATION, extends a cordial invitation to the members of the Philadelphia Pediatric Society, and others to attend its sessions during the meeting of the ASSOCIATION June 1 to 4, and also to attend the dinner on the evening of June 1, the subscription to which is $2.00.

Committee on Registration.—The Bureau of Registration will be opened in Horticultural Hall at 1 P.M., on Monday, May 31.

JOHN MARSHALL, M.D.
Chairman of Committee on Registration.

SOCIETY NEWS.

Association of American Physicians.—Twelfth annual meeting held at Washington, D. C., May 4, 5 and 6, 1897. Dr. J. M. Da Costa, president, in the chair. The president delivered the Annual Address (see p. 911).

Dr. George B. Shattuck of Boston then delivered an address on the "Serum Test for Typhoid Fever." Seventy-three patients were studied and the tests were made under the supervision of Dr. Leary of the pathologic department of the Boston City Hospital. The clinical statements are unnecessarily subject to the unavoidable peculiarities of hospital practice, but the effort was made to have them as accurate as possible. The date of the beginning of typhoid fever is counted from the first symptoms, but the examiners are not always correct even when they wish to be. A few cases have been thrown out; thus in some of these cases a large number of these tests might have been made had more time been at our disposal. Liquid blood was used and only incidently could we make out the proportion of serum in the typhoid cultures. The diazo reaction has been used in a large number of these cases and in the laboratory a longer maximum of time, an hour, was allowed for the reaction than some would consider justifiable. Many of the reactions had occurred in less time and the room culture reacts more promptly than the thermostat culture. Of the 145 cases 125 were typhoid fever, 17 were not typhoid fever and one was doubtful, which is not much to go on. The method of bacteriologic testing was next taken up. But in this suffice it to say that the spleen of the patient was taken as a basic culture and from this daughter cultures were made. All the tests were made with cultures given at the room temperature, they seeming to be more satisfactory, for in the room culture the organisms were fewer in number and larger and more motile; the reactions, while perhaps slower, were absolute. In the thermostat cultures sediment of dead organisms interfered with the diagnosis. The technique was that commonly practiced, but an hour was made the limit of time for the test and a shorter limit would have made many tests doubtful. With 116 cases with a clinical diagnosis of typhoid the reaction occurred in 16 before the tenth day and in 1 as late as the 122d day. Eleven cases gave a doubtful clinical diagnosis, and of these 4 gave no reaction at any time. One was without doubt meningitis; another was an old endocarditis; the third and fourth were probably typhoid, although it is very uncertain. In five of these eleven doubtful cases a positive result was obtained. In the first of these there were almost no symptoms but the reaction took place on the twenty-second, twenty-third and twenty-fourth days. The second case was a professional man of 52, he was a steady drinker, he suddenly became mentally confused while in another city and later had another attack resembling vertigo with aphasia; the urine contained blood, albumin and casts, the serum test gave prompt reaction. The third case was probably meningitis but

reaction showed that typhoid was with it. The fourth case was evidently of an ambulatory typhoid; the fifth case was considered uremia, but as the history and symptoms were so vague no positive diagnosis could be made; the patient died and the autopsy showed a typhoid case. Two were doubtful cases of which positive and negative results were obtained on different days. In the eighteen cases with a clinical diagnosis other than typhoid fever there was no reaction in fifteen and there was a reaction in three. One of these three being pneumonia, one thought to be acute miliary tuberculosis and one only exophthalmic goitre. The pneumonia case died and no autopsy was obtained. The case of ophthalmic goitre also died and typhoid ulcers were seen at the autopsy. The case of acute miliary tuberculosis gave a positive result. Questions have been asked whether the blood serum from the negro was more prone to this reaction than the blood of the white. Tests were made with thirteen colored patients in eight of whom there was no reaction. In three there was reaction more or less satisfactory and in two the reactions were positive. Typhoid fever can not be excluded from the history of these two cases in the past six months. The diazo reaction was recorded in eighty nine cases, was found in forty-two and not found in forty-seven and its presence did not always coincide with the serum test.

The following conclusions were drawn:

1. The serum reaction may be obtained toward the end of the first week of typhoid fever, but is both more pronounced and more usual later in the course of the disease.

2. It may be present without relapse at the end of the fourth month.

3. It may be absent one day and present the next.

4. Of 125 cases of typhoid fever the reaction was absent in only one case. In three cases it failed, but there was in each only one test, in one case on the twelfth and in the other on the eighty-second day.

5. In nineteen cases of other diseases clearly uncomplicated by typhoid there was no reaction.

6. In one case, where the diagnosis must remain doubtful, although typhoid can not be positively excluded, there was a reaction.

7. In the number of difficult and perplexing cases the serum test was of distinct service in establishing or correcting the diagnosis.

8. This test will probably prove itself a useful aid to clinical diagnosis, and especially in hospital practice.

Dr. A. C. Abbott of Philadelphia said that the conditions which surrounded this work in the city were not the same as those in a hospital, nevertheless the results in Philadelphia had been fairly good. They had received 164 cases of dried blood and 115 of these had histories. Sixty-eight were clinically diagnosed typhoid fever and 66 gave the Vidal reaction; that is to say 2.9 failures. This reaction takes place as late as the thirty-second day and in many cases less than a week. In two cases in which the primary reaction was negative the secondary was positive and in seven cases where the doubtful primary reaction had showed a positive one later; two cases came in with very meagre histories; he had been much pleased with the results of the work in the municipal laboratory in Philadelphia.

Dr. J. H. Musser of Philadelphia said that there was one period when this reaction was confusing, and that is in the latest stages of the illness when typhoid was a terminal infection. He mentioned several cases in which the reaction failed to show until very late in the course of the disease, which made him think the disease was not originally typhoid.

Dr. Wm. Osler, Baltimore, said that in forty-four cases which had been examined before him by Dr. Bloch at the Johns Hopkins Hospital, reaction had proved satisfactory in all, and quite a number of these patients were admitted later on in the course of the disease. In one there was slight recrudescence of the disease; again in another meningitis. In most cases it was rare to get this reaction before the sixth day.

Dr. Herman M. Biggs, New York, said that it was very difficult to obtain the reaction from the blood, but in quite a number of cases he had applied a cantharidal blister and had obtained the reaction with the serous fluid which was raised by the blister.

Dr. James Tyson, Philadelphia, said that many cases of typhoid fever aborted spontaneously. He mentioned the cases of two young girls who went skating on the Schuylkill and becoming thirsty, they drank some of the water through a hole in the ice; they both had the fever and very early in the course of the disease they gave characteristic reaction; one got well in a week and the other one in three weeks. He mentioned another case which was supposed to be typhoid fever, but the blood was examined and the reaction was not obtained; he thought it must be miliary tuberculosis, but could get no signs of the disease, but the clinical picture was so much like typhoid that he held to his opinion. At the autopsy there were no signs of typhoid fever except an enlarged spleen, and the case was one of tuberculosis.

Dr. Frank Billings, Denver, said that mistakes were often due to faulty technique. In his article Dr. Wyatt Johnston stated that an old culture should be used, which was an error, and what he meant to say, and what he did say afterward, was that an old culture should be used as a basic culture and daughter cultures from this should be used. It was very important that the technique of this method should be understood before attempts of diagnosis are made; for there is the age of the culture and the proportion of serum to the test, and the influence of the serum of the typhoid organisms; all have to be considered. In one case in which the typhoid fever occurred three years ago the blood reacted to the test. Vidal says seven years is the longest time he knows. It is important, therefore, to understand the method of reaction and to be acquainted with the exceptions to this diagnostic means.

Dr. Jas. T. Whittaker, Cincinnati, then related a case of a patient who he at first thought had Bright's disease, and then he thought it was miliary tuberculosis. He examined the blood and got the typical reaction during convalescence, and he concluded that the case was one which had recovered from typhoid fever.

Dr. F. C. Shattuck, Boston, then related a case in which the diagnosis at first was rather obscure. The patient felt badly, had chills, later fever and then albuminuria, which was supposed to be Bright's disease; the fever went up as high as 106 degrees, the blood gave the characteristic test, and he concluded that it was what the Germans call "nephrotyphus."

Dr. E. G. Janeway, New York, said he had seen the danger of trusting to the negative side of this test too early in the course of the disease. He had been called in quite a number of times when the test was negative and when the case was supposed to be typhoid fever but no certain diagnosis had been made. In one case it was not until the twenty-eighth day that the typhoid reaction was obtained, and there had already been collapse and perforation of the intestines. The negative test does not deprive typhoid fever of its dangers, but rather tends to throw one off guard. The great danger is in regarding this test as pathognomonic, thus we are misled by the negative results and treat the case as if it were something other than typhoid, when in reality it is typhoid. He mentioned a case in which the reaction was not obtained until the convalescence; he thought we ought to be very careful in negative tests.

Dr. A. Lawrence Mason, Boston, then read a paper entitled "Gall-bladder Infection in Typhoid Fever." This was a case of inflammation of the gall bladder with perforation and intestinal rupture following a complication of typhoid. It is not a common disease and he had found about forty cases in literature, and most of them were postmortem discoveries. His case was a woman 30 years old who in the second week of typhoid fever began to suffer from anorexia, vomiting and constipation. The blood was tested and the reaction was positive. She had pain in right hypochondriac region with swelling; great tenderness at times; the liver dulness was normal. A cyst was discovered and it was aspirated, a thick yellow fluid being withdrawn; there were no gallstones found. The relief from pain was immediate and the pulse fell to normal; the gall bladder was resected; defervescence promptly ensued. The specimen of fluid which was passed around showed that it was very much unlike bile. Typhoid organisms were found in this fluid, tests were made with it and animals were inoculated. Not many cases of this kind are recorded. Rokitansky and Frerichs have written the best studies on this trouble. It is only in the last ten years that bacteriologists have made it possible to investigate these cases thoroughly. The biliary ducts contain the typhoid organisms, and also some gallstones were found, but not many. Infections might have taken place from the gall bladder. The prognosis was unfavorable. If the gall bladder is much distended, the treatment should be toward relieving pain and for preventing absorption, or else surgery should be called in. He related a case in which laparotomy had been performed in this trouble.

His conclusions were, 1. That the gall bladder is often affected in typhoid fever. 2. Cholecystitis may result. 3. Gallstones predispose to this complication. 4. Gall bladder may be the means of infecting the body.

Dr. Wm. Osler, Baltimore, then read a paper on "Hepatic Complications of Typhoid Fever." He considered the subject under the following headings: 1. Focal necroses. 2. Jaundice in the course of the disease. 3. Abscesses which might be in the form of a suppurative pylephlebitis or a solitary abscess.

4. Affections of the bile passages which were due to typhoid bacilli of the gall bladder and typhoid fever, or as cholecystitis and cholangitis as a complication or sequela of the disease, or else of the form of typhoid fever and gallstones. He spoke of the rarity of jaundice in these cases. He had not been able to find it in 500 cases in the Johns Hopkins Hospital except in two instances. Blochstein showed that the bacillus lived fifteen and a half weeks in the biliary passages and the colon bacillus was always there. In fourteen cases in which the gall bladder had been examined of those who died, typhoid bacilli were found in seven cases and other organisms in the disease and in these seven fatal cases there had been no hepatic symptoms. There is a great possibility of infection through the gall bladder. The production of an acute cholecystitis without typhoid in any individual is possible, as the record of the present day will show. He had seen a case; the subject of the case was a man who had suffered from gravel. After a hearty meal of beefsteak and potatoes he was seized the next day with violent vomiting and vomited his two previous meals; he had a tumefaction over the gall bladder region. Dr. Halsted operated and found no bile, but stones and a yellow liquid. He also found the colon bacillus. The studies of Chiari on this subject show very great care. It is exceedingly rare, for in an analysis of 2,000 cases in Munich only five were found. The number of recent cases is greater than is usually reported. He spoke of one case in which there was laparotomy and recovery and then related the following cases:

Case 1.—Typhoid fever. Fever lasted twenty-seven days, colon bacillus was found during convalescence; the patient subsequently recovered; then three months later he grew worse and was operated on for cholecystitis; a laparotomy was first performed for appendicitis and nothing being found wrong with the appendix the gall bladder was found adherent with a perforation in it, from which oozed a yellow fluid; this fluid was removed and the stone was also removed and the gall bladder was packed with iodoform gauze and the case recovered.

Case 2.—In the third week of typhoid fever; got better later; had a relapse and became violently jaundiced. On admission a large gall bladder was found and the fluid extracted; the colon bacillus was found; the patient died.

Case 3.—The patient had been sick eighty-two days; had a slight remission; typhoid fever was diagnosed, but Vidal's reaction was dubious. On the thirty-fifth day of the fever, had extreme pain in the hypochondriac region; a laparotomy was performed and the patient recovered.

Case 4.—Typhoid fever; pain in the side; got better, but later was re-admitted; he then complained of headache, weakness, and then had a chill which lasted half an hour; the blood gave marked Vidal reaction; he was jaundiced. The cultures from the fluid were sterile; later he had parotitis.

American Pediatric Society.—Ninth Annual Meeting, Washington, May 4, 5 and 6, 1897. The meeting was opened by the president, Dr. Samuel S. Adams, of Washington, who delivered an address entitled "The Evolution of Pediatric Literature in the United States." In this address he reviewed in chronological order the various works on the diseases of children which have been written in this country during the past one hundred years. Every author writing upon this subject before 1870 was mentioned. Since that date the contributions have been too numerous to receive individual mention. The first definite contribution to pediatric literature was made by Dr. Rush in 1789, in a description of influenza. Following this were mentioned the names of Caldwell in 1796, Stuart in 1806, The American Matron in 1810, Jackson in 1812, Miller in 1814 and Logan in 1825. There were numerous contributions between that date and 1848 when J. Forsyth Meigs published his important work on the diseases of children, the last two editions of which appeared under the authorship of Meigs and Pepper. The next important name in pediatrics appeared ten years later when Jacobi in 1858 wrote his first paper on children. It is also notable that J. Lewis Smith wrote his first paper on children in the same year. The first edition of his well known work on diseases of children appeared in 1869.

The most important names which have since appeared as the authors of systematic works are those of Keating in 1889, Starr in 1894, Sachs in 1895, Rotch in 1895 and Holt in 1896.

Dr. James C. Wilson read a paper upon "Tic Convulsif" and reported a case which belonged to the class of nervous diseases which includes the "jumpers" described by Beard. Dr. B. Scharlau presented a synopsis of fifty-six cases of empyema operated upon during 1896 with very favorable results. Dr. W. D. Booker reported a case of congenital diaphragmatic hernia associated with recurrent attacks simulating asthma dyspepticum. During one of these attacks the child died and the true pathologic conditions were revealed by the autopsy.

Dr. J. P. Crozer Griffith reported two cases of "Unilateral Tremor" in children. Dr. J. Henry Fruitnight read a paper on a "Frequent Significance of Epistaxis in Children." He believed that this symptom was frequently the result of cardiac disease and should always receive full attention. Dr. George N. Acker reported two cases of meningitis apparently tuberculous in nature, with recovery.

Dr. Joseph O'Dwyer reported a case of congenital stenosis of the larynx in which relief was obtained by gradual dilatation with steel sounds. Dr. William Osler read an extended paper on "Adherent Pericardium in Children," and reported cases. Dr. A. Jacobi reported a case of sarcoma of the skin in a newly born infant and read a paper upon the origin of such growths.

Dr. F. Gordon Morrill reported an analysis of "One Hundred Cases of Broncho-pneumonia," that term being used rather than lobar pneumonia because of the confusion produced by the use of the latter term when applied to the pneumonias of children. Dr. Floyd M. Crandall read a paper on "Hereditary Tendency in Pediatric Practice," and called particular attention to certain misapprehensions which sometimes arise regarding that subject. Dr. B. K. Rachford read a paper on the "Symptoms of Lithemia" as they appear in children and considered the special symptoms in detail.

In a paper on "Retro-esophageal Abscess," Dr. J. P. Crozer Griffith called particular attention to the great difficulties experienced in making a diagnosis of that condition. Dr. C. G. Kerley reported a case of exophthalmic goitre apparently cured by the use of thyroid extract. The case was an undoubted one and the beneficial effects of the extract seemed to be equally clear. Dr. Henry Koplik reported the extensive use of thyroid extract for the purpose of testing its value in different diseases of the blood and bones, and his conclusions suggested its more general use in those diseases. Dr. Francis Huber also presented a paper reporting a cure of goitre by thyroid extract. The report of the committee on the collective investigation of the antitoxin treatment of laryngeal diphtheria in private practice was read by the chairman, Dr. W. P. Northrup, the conclusions being as follows:

Dr. Joseph O'Dwyer read an important paper on retained intubation tubes, this term being used to mean the necessity of continuing intubation long after the disappearance of the original disease. Dr. T. M. Rotch reported cases of diphtheria of the eye and discussed the subject of antitoxin in diphtheria. Dr. Henry Koplik exhibited an apparatus by which the bacteriologic diagnosis of diphtheria could be made within three or four hours.

Dr. Edward P. Davis presented an important contribution on pre-natal infection in infancy causing diseases which develop during the first month of life. Dr. Irving M. Snow reported a case in which poisoning by acetanilid had resulted from the absorption of that drug in the umbilical wound. Dr. T. M. Rotch presented a specimen of ileocolitis and Dr. R. G. Freeman presented an improved nursing bottle.

Papers were read by title by Drs. J. Lewis Smith, W. F. Lockwood, W. P. Northrup, R. G. Freeman, H. D. Chapin, Francis Huber, C. G. Jennings, C. P. Putnam.

The following officers were elected for the ensuing year: President, Dr. L. Emmett Holt; first vice-president, Dr. Henry Koplik; second vice-president, Dr. Charles G. Jennings; secretary, Dr. Samuel S. Adams; recorder, Dr. Floyd M. Crandall; treasurer, Dr. F. A. Packard; member of council, Dr. Charles P. Putnam.

The following were elected members: Dr. J. H. McCollom, Boston; Dr. J. P. West, Bellaire; Dr. Churchill, Chicago; Dr. E. E. Graham, Philadelphia; Dr. Harold Williams, Boston.

The subject of infantile scorbutus was selected for collective investigation, the report to be made at the next meeting. The following committee was appointed: W. D. Booker, J. P. Crozer Griffith, C. G. Jennings, A. Caillé, J. Lovett Morse.

Cincinnati was named as the next place of meeting, the exact date of the meeting not being decided.

PUBLIC HEALTH.

Reports of Contagious and Infectious Disease.—Commissioner George B. Fowler, M.D., of the Health Department, New York City, as against the charge of tyrannical authority over the profession, states that criticisms of the Greater New York charter are unjust, inasmuch as the sections involved are not new. "They constitute Sections 608-610 of the Consolidated Act of 1882, under which the city has been governed for fifteen

years and were originally passed forty-seven years ago. Sections 1247 and 1249 being in Chapter 275, Laws of 1850, and Sections 1248 in Chapter 384, Laws of 1851."

A Sewage Lawsuit in Ohio.—An interesting trial will occur shortly at Fremont. The village of Clyde turns its sewage into Green Creek, and Mr. J. N. Winter, a farmer, raises hogs on a farm lower down the stream. Recently hog cholera greatly reduced his assets and he lays the blame to the pollution of the stream and has sued the village for $3,140 damages. Once the principle of securing indemnity for this sort of damage is established, we will hear much less of insanitary towns and villages. The pleadings of the medical profession for good sewerage systems will be listened to with more respect in the future.—*Cleveland Journal of Medicine*, April.

Sanitary Economics in Michigan.—A Michigan journal states that the statistics of the State Board of Health show through compliance with the recommendations of that Board during the five years, 1890-94, there were probably saved to the people of Michigan 112,843 cases of sickness and about 5,261 deaths, from the four diseases—diphtheria, scarlet fever, typhoid fever and measles. At a very low estimate the money value thereby saved the State during these five years is $5,097,800, or over one million dollars per year, from these four diseases. The basis on which this estimate is made is as follows: For medical attendance and other necessary expenses in each case of sickness, $20; for each funeral prevented, $40; value of each life saved, $500. (Before the late war a slave was worth about $800, for what it would earn over and above its cost of maintenance, and now the courts count an average person's life worth about $5,000—ten times the amount used in this estimate). If all the dangerous diseases were considered, the saving would undoubtedly be much more.

"The State Board of Health exists for the purpose of guarding the highest interests of every man, woman and child in Michigan; and, if it had the coöperation of all, and its advice was fully complied with, the results of the work would be still more effective. As it is, the money values saved to the people of the State greatly exceed the cost of the public health work, being, in fact, nearly half as much as the entire amounts required to sustain the State government and all the State institutions. From an unhealthful State, Michigan is fast becoming one of the most healthful."

NECROLOGY.

B. F. KITTRELL, M.D., died at his residence in Black Hawk, Miss., April 22. Dr. Kittrell was born at Greensboro, Ala., Dec. 24, 1836. He graduated from Irving College, Tenn., in 1855, and from the New Orleans School of Medicine in 1861. He entered the Confederate service as a private in 1861, but in the following year he was appointed assistant surgeon of the 22d Mississippi Regiment, which position he retained until the close of the war. In 1866 he located at Black Hawk, Miss., where he continued in the practice of his profession until his death. Dr. Kittrell was an active member of the State Medical Association, and did much to elevate the standard of medical attainments in the State and also in shaping medical legislation. In 1889, he read an article before the Association on Medical Legislation, in which he suggested that, instead of having a board of examination for each congressional district in the State, it would be better to have one board for the State at the capital, to examine all applicants for a license to practice medicine. The Association concurred in his views, and immediately appointed a committee to memorialize the State legislation on the subject, which action resulted in the change being effected. Dr. Kittrell was at different times vice-president, orator and president of the State Medical Association. He was a member of the State Board of Health for seventeen years, and was president of that body in 1884.

J. A. NOEL, M.D., of Redfield, Iowa, died in DesMoines, Iowa, April 23, aged about 40 years. His death followed a few hours after an operation for intestinal obstruction. Dr. Noel was a graduate of Missouri Medical College, 1886. He was a permanent member of the Iowa State Medical Society, and was a charter member of the Dallas County Medical Society, of which society he was president in the year 1895-96.

ERNST KRAMER, M.D., Berlin, 1856, died April 18, in Milwaukee, Wis., in which city he settled in 1865. He was 64 years old and a surgeon on the first steamer to New York of the North German Lloyd Company. In 1859 he resigned and went to Madison, Wis. During the war he had a varied experience as assistant surgeon of the 7th Wisconsin Infantry, from which he was promoted surgeon of 1st Wisconsin Cavalry, June 13, 1862, and from this he resigned Feb. 27, 1863. He was finally mustered out of service as surgeon of the 45th Wisconsin Infantry Dec. 8, 1864. For nearly twenty years he was a pension examining surgeon.

CHARLES M. SHIELDS, M.D., of Richmond, Va., died April 16, aged 41 years. He was a member of the AMERICAN MEDICAL ASSOCIATION and Medical Society of Virginia as well as an ex-president of the Richmond Academy of Medicine and Surgery. Four years ago he became Lecturer on Diseases of the Eye, Ear and Throat in the Medical College of Virginia, from which he was graduated in 1879.

GRAFFINS MILLER COUCH, M.D., Maryland School of Medicine, Baltimore, 1883, died at his residence in Altoona, Pa., April 25, aged 47 years. He was a member of the Altoona Academy of Medicine and Surgery.

EDWARD H. FOSTER, M.D., of Concord, N. H., died April 5. He was a graduate of the Medical School of Maine, Brunswick, class of 1866, and was widely known in his section of the State.

JEFFERSON J. O'CONNELL, died in Honesdale, Pa., April 12, from gastric ulcer. He was born in 1859 and was graduated in 1887 from the College of Physicians and Surgeons, Chicago.

HUGH MCDONALD STRUBLE, M.D., University of Pennsylvania, 1875, and of Middletown, N. Y., died April 30. He was born in Newton, N. J., in 1852.

BOOK NOTICES.

Surgery of the Head and Neck. By LEVI COOPER LANE, A.M., D.D., M.R.C.S., W.L.D. Professor of surgery, Cooper Medical College, San Francisco. Published by the author.

If the reader of this little volume will leave bacteriology out of the case he will find a very instructive and entertaining volume. The long experience of the author, his powers of close observance, the excellence of his English and the purity of his diction will commend the work and arrest the attention of the reader, and as a record of the experience of a surgeon during a long and active life, the work will find an appropriate place in the library of every surgical scholar and practitioner.

We hope to see other volumes of regional surgery following in due course. In the description and treatment of the various surgical diseases of the head and neck few surgeons can speak from a longer experience, and few have better set forth the result of that experience. The literature of the subject discussed has been exhaustedly quoted wherever applicable. The proofreading has been done with great care and the author has apparently spared no pains to insure accuracy.

The Twenty-second Annual Report of the Secretary of the Michigan State Board of Health, for the year ending June 30, 1894, pp. 526. Lansing: Robt. Smith & Co., 1896.

This report is somewhat belated, but it is none the less valuable in containing a detailed statement of the efficient services of an excellent Board of Health under an accomplished executive officer. Few can arise from a perusal of this report without having an increased respect for the intelligence, skill and zeal which have characterized the operations of which it gives an account.

Syringomyelia. The 1895 Alvarenga prize essay of the Philadelphia College of Physicians. By GUY HINSDALE, A.M., M.D. pp. 74. $1.00. Philadelphia: International Medical Magazine Co. [P. Blakiston, Son & Co.] 1897.

This little essay is dedicated to S. Weir Mitchell. It places in evidence the most complete bibliography on the subject that has thus far been collected, amounting to 514 references. Of these says the author, 230 are from Germany and Austria, 136 from France and 85 that appear in English.

The author has gone to the original sources of analysis, 180 cases since 1890. The essay is based on the study of these and two unpublished cases which have been added to the list. The essay has been revised and re-published from the *International Medical Magazine* of November, 1896, and November, 1897. It is a very complete statement of the subject. It is well illustrated and will be found very useful for the general practitioner and likewise the specialist in nervous diseases.

The International Medical Annual and Practitioners' Index. Forty-one contributors, English and American, pp. 629. $2.75. New York and Chicago: E. B. Treat.

This is the fifteenth year of this book and it preserves the same general characters it did in the beginning, viz., very comprehensive scope of great compactness and judicious selections. The book has few superiors in its special line, and among the many excellent year-books it occupies a very high rank.

MISCELLANY.

Not Natural Results of Injuries.—Loss of memory or impaired mental constitution, the supreme court of Kansas holds, in Atchison, T. & S. F. R. Co. v. Willey, March 6, 1897, are not the natural or probable results of mere bodily injuries negligently inflicted by one person upon another, and, in consequence, before recovery therefor, as items of damage resulting from such injuries, can be had, they must be specifically pleaded.

Surgical Scissors are Scissors.—In the matter of the protest against the decision of the collector of customs at New York as to the rate and amount of duties chargeable on certain surgical scissors, the United States general appraisers at New York find, under date of January 20, 1897, "that the said surgical scissors are scissors," and affirm the assessment of duty at 45 per cent. under paragraph 140, act of August 28, 1894.

Extirpation of Cancer of the Cecum.—The neoplasm weighed 400 grams and was attached to the rear wall of the cecum, of which 20 cm. were resected with it. The operation was extraperitoneal, and concluded with the union of the end of the ileum to the end of the ascending colon. Normal intestinal functions were resumed in four days and the patient was dismissed completely cured in three weeks.—*Gaz. d. Osp. e delle Clin.*, 7, April 11.

Societies.

THE PRACTITIONERS' CLUB of Newark, N. J., gave their ninth annual dinner on May 4. The election previous to the festivities, resulted as follows: A. K. Baldwin, president; R. G. P. Duffenbach, vice-president; H. C. Herold, secretary and treasurer.

THE WESTCHESTER COUNTY MEDICAL SOCIETY of New York State, after the Medical Society of New Jersey (incorporated in 1790), said to be the oldest in the United States, celebrated its centennial May 8, in the county court house, White Plains, N. Y. The occasion was made memorable by bunting, speeches, an historical address, a poem and a banquet. About one hundred out of the one hundred and fifty members were present.

Hospitals.

There are 21 hospitals in France that dispose of over 500,000 francs; 116 over 100,000 francs, and 1,389 less than 30,000 francs—a total of 1,773 hospitals in all.——St. Vincent's Hospital, New York city, is to have an addition of a new wing, the erection of which the advisory board hope to begin with the proper support of their friends. This hospital in 1896 received 4,307 patients, an increase of nearly 300 over the previous year. In the out-door department 10,611 patients received treatment and 5,702 prescriptions were filled. The death rate was 8.43 per cent.

New York.

AN INSANITY LAW AMENDMENT.—A bill providing for the immediate disposition of lunatics of the dangerous class, received some informal consideration in the New York State Legislature before its adjournment. The proposition was for the temporary commitment of dangerous or violent lunatics for five days upon the sworn certificate of two authorized medical examiners in lunacy, pending the outcome of the legal proceedings for the final disposition of the cases. This period to carry a three days' option at the discretion of a judge of a court of records. It was also proposed that the alleged lunatic, his family, relatives or friends be notified as soon as he is temporarily committed that he is entitled to counsel. If no counsel appears within two days, it shall be the duty of the district attorney of the county in which the alleged lunatic resides to appear at the hearing for the purpose of protecting his interests, so far as consistent with public safety. The present insanity law, which perhaps aimed to be too comprehensive, has been in operation since July 1, 1896, a period too short, in the opinion of the chairman of the lunacy commission, to require a change. The present status of the measure, so far as can be learned, is that it did not reach a vote, but may come up in some form at a future session. The law, whether to its credit or not, generally inclines to liberty of the person.

Washington.

THE FOURTH TRIENNIAL CONGRESS OF PHYSICIANS AND SURGEONS.—This meeting of the Congress has been most successful and the arrangements completed by the Committee in charge were perfect, owing to the able management of the chairman, Dr. Samuel S. Adams. Valuable and instructive papers were read in each component society and the meetings were well attended. Relaxation and the "social" was provided through luncheon by Drs. A. F. A. King, Jos. T. Johnson, S. S. Adams and T. M. Murray. A smoker at the Cosmos Club, and a reception at the Arlington Hotel in horor of Dr. Welsh. A commendable feature at the Club of the Congress was the unveiling of the statue of the late Dr. Samuel D. Gross. After prayer by Rev. B. L. Whitman, D.D., president of Columbian University, Dr. Claudius H. Mastin of Mobile, Ala., made an address, at the close of which he, on behalf of those who had raised the money to erect the monument, presented it to the government. Dr. Mastin's speech was a masterly effort, and comprised an interesting history of the life of Dr. Gross, in which mention was made of the most noted achievements of the latter for the cause of medicine and surgery. The life and work of Dr. Gross were reviewed at length by Dr. W. W. Keen, the successor of Dr. Gross in the chair of surgery at Jefferson Medical College. Dr. George M. Sternberg, Surgeon-General U. S. A., in accepting the monument for the government, followed with a very eloquent and interesting speech. The Gross statue stands in the lawn directly north of the Army Medical Museum and Library. The following officers were elected for the ensuing year:

Pediatric—President, L. Emmet Holt, New York; first-vice-president, Henry Koplik, New York; second vice-president, C. G. Jennings, Detroit, Mich; secretary, S. S. Adams, Washington, and treasurer, F. A. Packard, Philadelphia.

Association American Physicians—President, F. C. Shattuck, Boston; vice-president, G. M. Baumgarten, St. Louis; recorder, I. Minnis Hays, Philadelphia; secretary, Henry Hun, Albany, and treasurer, W. W. Johnston, Washington.

Physiological—President, Prof. Russell H. Chittenden, New Haven, Conn.; secretary and treasurer, F. S. Lee, New York. Council—H. P. Bowditch, Boston; Prof. R. H. Chittenden, New Haven; W. H. Howell, Baltimore; F. S. Lee, New York, and W. P. Lombard, Ann Arbor, Mich.

Surgical—President, Dr. T. F. Prewitt, St. Louis; vice-presidents, Dr. J. McF. Gaston, Atlanta; Dr. M. H. Richardson, Boston; secretary, Dr. Herbert L. Burrell, Boston; treasurer, Dr. George R. Fowler, Brooklyn; recorder, Dr. De Forest Willard, Philadelphia.

Neurological—President, Dr. G. M. Hammond, New York; vice-presidents, Drs. Philip Zenner, Cincinnati, and J. J. Put-

nam, Boston; secretary and treasurer, Dr. F. L. Durenn, Philadelphia; members of the council, Drs. H. T. Patrick, Chicago, and C. K. Mills, Philadelphia.

Laryngological—President, Dr. Thomas R. French, Brooklyn; vice-presidents, Dr. T. Morris Murray, Washington, and Dr. H. S. Birkett, Montreal; secretary and treasurer, Dr. Henry L. Swain, New Haven; librarian, Dr. J. H. Bryan, Washington, D. C.; Council, Drs. D. Bryson Delavan, New York, John O. Roe, Rochester, W. H. Daly, Pittsburg, and Charles H. Knight, New York.

Dermatological—President, Dr. J. Nevis Hyde, Chicago; vice-president, Dr. E. B. Brown, New York; secretary and treasurer, Dr. J. T. Bowen, Boston; member of council, Dr. G. T. Jackson, New York.

Ophthalmological—President, Dr. Geo. C. Harlan, Philadelphia; vice-president, Dr. O. F. Wadsworth, Boston; corresponding secretary, Dr. J. S. Prout, Brooklyn; recording secretary, Dr. S. B. St. John, Hartford; delegate to the executive committee of the congress, Dr. John D. Rushmore, Brooklyn.

Genito-urinary surgeons—President, J. W. White, Philadelphia; vice-president, Dr. J. C. Bell, Montreal; secretary, Dr. W. K. Otis, New York; member of the council, Dr. R. W. Taylor, New York.

Otological—President, Dr. Arthur Mathewson, Brooklyn; vice-president, Dr. H. G. Miller, Providence, R. I.; secretary and treasurer, Dr. J. B. Vermyne, New Bedford, Mass.; delegate to the executive committee of the congress, Dr. William H. Carwalt, New Haven, Conn.

Climatological—President, Dr. E. Fletcher Ingals, Chicago; vice-presidents, Drs. Samuel A. Fish, Denver, and John C. Munro, Boston; secretary and treasurer, Dr. Guy Hinsdale, Philadelphia; council, Drs. Willis E. Ford, Utica, N. Y., Roland G. Curtin, Philadelphia, Isaac Hull Platt, Lakewood, N. J., S. E. Solly, Colorado Springs, Colo., James B. Walker, Philadelphia; member of the executive committee of the congress, Dr. Frederick I. Knight, Boston.

WASHINGTON GYNECOLOGICAL AND OBSTETRICAL SOCIETY.—The 263d meeting of the society was held on the 7th instant. Dr. Fry read the paper of the evening entitled the "Treatment of Asphyxia Neonatorum by the Hypodermatic Injection of Strychnin." Dr. J. T. Johnson presented a uterus which he successfully removed per vaginam. Dr. H. L. E. Johnson presented a calculus which he removed from the urethra of a woman.

The American Pediatric Society's Report on the Collective Investigation of the Antitoxin Treatment of Laryngeal Diphtheria in Private Practice. 1896–1897.—In this second and supplementary investigation, the aim has been to ascertain: 1, what percentage of cases of laryngeal diphtheria recover without operation under antitoxin treatment; 2, what percentage of operated cases recover. The report now submitted may properly be limited to answering these two inquiries.

Since the beginning of the use of general intubation, no disease has been more thoroughly observed and more fully reported than laryngeal diphtheria. Operative cases, especially, without hesitation, whether ending fatally or favorably, have been fully and promptly put on record. The result has been a collection and tabulation of cases available for control, such as few diseases offer. There are thousands of intubation cases before the days of antitoxin, and thousands since, available for comparison. It is, then, to cases of laryngeal diphtheria, especially those requiring operative interference, that we may apply the crucial test of the value of the antitoxin treatment.

Sixty thousand circulars containing the following questions have been distributed:

Age of patient? Diagnosis confirmed by: 1. Presence of other cases in the family? 2. Appearance of membrane elsewhere? 3. Bacteriologic cultures? How many days and parts of a day after the first appearance of the disease was antitoxin first administered? How many doses of antitoxin were administered? Dose of each injection in antitoxin units? Whose antitoxin used?

Non operative cases—evidence of disease: Hoarseness? Aphonia? Stenosis?

Operative cases: 1. Intubation? On what day? 2. Tracheotomy? On what day? How long, in days and fraction of a day, was tube in the larynx or trachea?

Sequelæ (in recoveries): 1. Broncho-pneumonia? 2. Paralysis? 3. Nephritis?

Death, cause of, and on what day? 1. Broncho-pneumonia? 2. Extension of membrane to the bronchi? 3. Sudden heart paralysis? 4. Nephritis? 5. Sepsis? 6. Accidents of operation?

Recovery? Remarks, especially on fatal cases?

These circulars were distributed throughout the United States and Canada, the following means being employed: Contributors to first report, members of the Society acting as agents for their respective localities, boards of health, local medical societies and antitoxin manufacturers. At the outset, in this connection, it is a pleasure to acknowledge that the labors of the Committee have been much lightened by the uniform good will of all addressed, more aid coming spontaneously than in the previous investigation. It is also a pleasure to especially acknowledge the Society's indebtedness for efficient aid in distributing circulars and securing returns to H. K. Mulford Co., Parke, Davis & Co., Lehn & Fink (Gibier's), the Health Departments of Chicago, St. Louis, New Orleans, Denver, San Francisco, Boston, Washington, Buffalo, Providence, Ann Arbor, Newark, Montreal, Toronto and others.

To the New York Health Department is due the thanks of the Society for every possible courtesy in distributing blanks and, through their inspectors, of securing returns of operative cases.

In order to reduce sources of error it was desirable to bring together a large number of cases, from widely distributed localities, from many different observers and operators, and from a period of time including all seasons of the year. All returns have been examined by the Committee and only such cases accepted as bore satisfactory evidence that they were first of all, diphtheria, and secondly that the lesion had invaded the larynx.

A total of 1,704 cases of laryngeal diphtheria are ours for present study. A few cases (228) had not satisfactory evidence that there was laryngeal involvement; indeed, some were reported through misunderstanding the fact that only laryngeal cases were wanted, and a few were reported in which there was no mention that antitoxin was used. These cases are not included in the number referred to above. Of the 228 cases, 218 recovered, and 10 died.

In a total of 1,704 antitoxin-treated cases of laryngeal diphtheria, there was a mortality of 21.12 per cent. (360 deaths).

TABLE OF ALL CASES SHOWING AGE AND RESULT OF TREATMENT.

	Fatal cases.	Recoveries.	Totals.	Mortality. Per cent.
1 year and under	25	35	60	41.66
1 to 2 years	77	219	296	26.01
2 to 3 years	81	260	341	23.75
3 to 4 years	42	216	258	16.27
4 to 5 years	47	160	207	22.70
5 to 10 years	72	345	417	17.26
10 to 15 years	9	64	73	12.32
15 to 20 years	2	24	26	7.65
Over 20 years	5	17	22	22.72
Unknown	0	4	4	
	360	1344	1704	21.12

Cases not operated on.—The first inquiry of the circular was what percentage of cases of laryngeal diphtheria recover without operation under antitoxin treatment.

Of 1,704 total cases, 1,036 were not operated upon (60.79 per cent.). Of these, most did not require operative interference, a few cases were thought to require it but operation was refused. All cases are included, and it will be noted, there are no eliminations.

Among the 1,036 cases not operated on, there was a mortality of 17.18 per cent. deaths (178), or, to answer the inquiry of the circular exactly, of 1,036 cases not operated on, 82.82 per cent. recovered (or 858 cases).

As good as is this percentage of recovery in so large a number of diphtheria of the severest type, it is believed it is not as good as it ought to be. Cases of laryngeal diphtheria not requiring operation, according to the testimony of consulting intubationists, are seldom heard from a second time, and less often find their way into reports. It was formerly estimated that about 10 per cent. of cases of laryngeal diphtheria recovered without operation. The present report shows that in 1,036 cases 82.82 per cent. recovered.

Cases operated upon.—In analyzing this class of cases, it is believed a more exact conclusion as to the value of the antitoxin treatment can be arrived at than in the non-operative.

There will be entire harmony of opinion as to the severity of laryngeal diphtheria which requires operative interference. In the early days of intubation it was customary to speak of the percentage of recoveries, and 25 per cent. and 27 per cent. were considered good results. In the last report the recoveries had crept up so high in the one hundred cases that it seemed more natural to speak of the percentage of mortality.

In this connection it is interesting to inquire what were the best reliable statistics of intubation, taking cases as they occurred, without selection, in pre antitoxin days. In 5,546 intubation cases collected by McNaughton and Maddren in 1892, the mortality was 69.5 per cent., or, to bring the facts into line, 30.5 per cent. recovered.

O'Dwyer's personal experience, in private consultation, brings us more nearly face to face with the old-time experience with diphtheria. Note that the following 500 cases came under the observation and care of one practitioner, a skilled operator, extended over a dozen years of time, and therefore included all types of the disease.

Exclusive of the first 100 cases of intubation, which O'Dwyer regards as experimental, the results stand as follows:

2d	100	intubations,	recoveries,	27	per cent.
3d	100	"	"	30	"
4th	100	"	"	26	"
5th, 70 on the	100	"	"	27	"

Total percentage of recoveries, 27.56. When he had reached 70 on the fifth hundred something occurred which carried the phraseology up over the divide so that it was appropriate to speak of mortality percentages. At this point in history, antitoxin arrived and interrupted forever the old series. In O'Dwyer's next 59 cases the mortality was 14 deaths, or 23.7 per cent.

In a total of 1,704 laryngeal cases there were 668 cases operated upon. In the 668, there were 182 deaths, or a mortality of 27.24 per cent. In the former report, in 553 intubated cases the mortality was 25.9 per cent. In approximate figures there is a difference between 27¼ per cent. and 26 per cent.

Summary.—Sixty thousand circulars were distributed throughout the United States and Canada.

Time allowance, the eleven months ending April 1, 1897.

Whole number of cases in this report, 1,704; mortality, 21.12 per cent. (360 deaths).

The cases occurred in the practice of 422 physicians in the United States and Canada.

Operations employed: 1. Intubation in 637 cases; mortality 26.05 per cent. (166 deaths). 2. Tracheotomy in twenty cases; mortality, 45 per cent. (nine deaths). 3. Intubation and tracheotomy in eleven cases; mortality, 63.63 per cent. (seven deaths).

Number of States represented, twenty-two, the District of Columbia and Canada.

Non-operated cases, 1,036, 60.79 per cent. of all cases; mortality, 17.18 per cent. (178 deaths).

Operated cases, 668 or 39.2 per cent. of all cases; mortality, 27.24 per cent. (182 deaths). Two facts may be recalled in connection with this paragraph. First, that before the use of antitoxin it was estimated that 90 per cent. of laryngeal diphtheria cases required operation, whereas, now, with the use of antitoxin, 39.2 per cent. require it. Second, that the percentage figures have been reversed, formerly 27 per cent. approximately representing the recoveries, whereas, now, under antitoxin treatment, 27 represents the mortality. To put it in other words, before the use of antitoxin, 27 per cent. recovered, now 73 per cent. recover, and this in the severest type of diphtheria.

The present report will strike many members of the society as revealing a mortality a little too large in each of the two classes. The mortality is large, larger than the personal experience in private practice of many would expect.

The reasons for this are: 1, that antitoxin is still used too late, either from procrastination on the part of the physician, or objection on the part of the friends, or 2, in a half-hearted way which shows itself in doses from one-tenth to one-fourth as large as they should be. In truth, both the physicians and the friends of the patient are timid.

This report it must be admitted, shows too large a mortality. In the opinion of the committee it is a larger mortality than will ever be shown again. Antitoxin is gradually being used earlier in the disease, and it will soon be used in sufficient doses.

To the society, the committee desire to say that they have sought to carry out their wishes in putting antitoxin on trial, to accept no testimony that did not bear the stamp of reliability, that they have employed the methods approved in the case of the first investigation and report, and that they have confined their work to definitely answering the main questions which the society and profession now have in mind. Points that were settled in the first report and have since been corroborated by general medical literature, are not again taken up.

If the committee are asked to put forth the three most valuable points established in this eleven months work, they are:

1. The mortality of laryngeal diphtheria at present rests at 21.12 per cent.

2. That 60 per cent. approximately have not required intubation.

3. That the mortality of operated cases is at present 27.24 per cent.

[Signed] W. P. Northrup, M.D., Joseph O'Dwyer, M.D., L. Emmett Holt, M.D., Samuel S. Adams, M.D., Committee.

The committee recommend: *Antitoxin* should be given at the earliest possible moment in all cases of suspected diphtheria.

Quality.—Of the products on the market some have, by test, been found to contain one-half to one-third the antitoxin units stated on the label. Select the most concentrated strength of an absolutely reliable preparation.

Dosage.—All cases of laryngeal diphtheria, the patient being two years of age or over, should receive as follows: First dose—2,000 units at the earliest possible moment. Second dose—2,000 units, twelve to eighteen hours after the first dose if there is no improvement in symptoms. Third dose—2,000 units, twenty-four hours after the second dose, if there is still no improvement in symptoms.

Patients under two years of age should receive 1,000 to 1,500 units, the doses to be repeated as above.

THE PUBLIC SERVICES.

Army Changes. **Official List of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from** May 1 to 7, 1897.

First Lieut. George A. Skinner, Asst. Surgeon, will proceed to Ft. Spokane, Washington, and report for temporary duty during the absence of Capt. Edward R. Morris, Asst. Surgeon, on leave for six months, to take effect on or about May 18, 1897.

The following named officers are detailed to represent the Medical Department of the Army at the seventh annual meeting of the Association of Military Surgeons of the United States, to meet at Columbus, Ohio, May 25 to 27, 1897: Lieut.-Col. William E. Waters, Deputy Surgeon-General; Major Henry Lippincott, Surgeon; Capt. Robert J. Gibson, Asst. Surgeon.

RETIREMENT.

Col. Charles T. Alexander, Asst. Surgeon-General U. S. A., retirement from active service this date, May 3, 1897, by operation of law, is announced. By direction of the President.

Change of Address.

Allen F. M., from 260 Bowen Avenue to 333 E. 41st Street, Chicago, Ill.; Abt, I. S., from 3505 Indiana Avenue to 4006 Grand Boul., Chicago, Ill.; Andrews, E., from 2520 Prairie Avenue to 3912 Lake Avenue, Chicago, Ill.

Belknap, L. J., from Portland, Ore., to San Jose Sanitarium, San Jose, Cal.; Bonnar, Wm., from 235 State Street to 240 Wabash Avenue, Chicago, Ill.; Betz, F. S., Kelley & Co., from 261 Dearborn Street to 80 State Street, Chicago, Ill.; Butterworth, Alice, from 638 Jackson Boul., to Chicago View Hotel, Chicago, Ill.

Cochran, C. C., from Keokuk, Iowa, to Curran, Ill; Cullen, F. C., from 561 W. 12th Street to cor. Loomis and Taylor Streets, Chicago, Ill.; Converse, T. E., from 721 2nd Street to 405 W. Chestnut Street, Louisville, Ky.; Curry, Wm., from Chicago, Ill., to Nebraska City, Neb.; Clayton, C. F., from 4145 Central Street to 345 South Paulina Street, Chicago, Ill.

Edwards, J. A., from Centerville to Columbia, Tenn.

Fales, L. H., from Chicago, Ill., to 1109 University Avenue, Madison, Wis.

Greene, D. M., from 147 Monroe Street, to The Gilbert Block, Grand Rapids, Mich.; Gaff, John V., from Benson to Tucson, Ariz.

Hartley, J., from 6324 to 6432 Stony Island Avenue, Chicago, Ill.; Hawes, E. E., from Hyannis to 818 Broadway, Chelsea, Mass.; Hummel, A. L., Advertising Agency, New York, N. Y.

Jones, P. M., from Crocker Bldg., to 808 Sutler Street, San Francisco, Cal.

Lawrence, G. H., from Denver, Colo., to Creston, Ill.

Peterson, W. A. C., from 775 Polk Street to 3129 Wentworth Avenue, Chicago, Ill.

Roming, S. V., from N. Clark Street to 727 Morse Avenue, Chicago, Ill.; Rhodes, J. E., from 506 W. Adams Street to 1669 W. Monroe Street, Chicago, Ill.

Sinclair, J. G., from 4101 to 4045 Grand Boul., Chicago, Ill.; Sixta, L. H., from Chicago, Ill., to Schuyler, Neb.; Stribling, J. S., from Seneca, S. C., to Sherman, Texas; Sheldon, M. B., from Low Moor, Va., to 138 N. State Street, Belvidere, Ill.

Ward, A. O., from 149 to 339 Virginia Avenue, Indianapolis, Ind.; Waters, L. C., from 439 W. Monroe Street to 966 Warren Avenue, Chicago.

LETTERS RECEIVED.

Bausch & Lomb Optical Co., Rochester, N. Y.; Bird, U. S., Tampa, Fla.; Bulkley, L. Duncan, (2) New York, N. Y.

Current, O. E., Farmland, Ind.; Cochran, C. C., Curran, Ill.; Cockburn, J. C., Minneapolis, Minn.; Cokenower, J. W., Des Moines, Iowa.

Daly, J. N., Orangeville, Ill.; Daggett, B. H., Buffalo, N. Y.

Floyd, Mrs. Thos., Little Rock, Ark.; Fairbairn, H. A., Brooklyn, N. Y.

Harrison, W. K., Chicago, Ill.; Hahn, Willis O., Wilkes-Barre, Pa.; Hammond, Wm, A., Washington, D. C.

Journal Advertising Agency, New York, N. Y.

Kindred, J. Jos., Astoria N. Y.; Kelley, A. D., Chicago, Ill.; Klie, G. H. Chas., St. Louis, Mo.

Longmans, Green & Co., New York, N. Y.

Medical and Surgical Reporter, The, Philadelphia, Pa.; Merriam, G. & C. Co., Springfield, Mass.; Merrick, M. B., Passaic, N. J.; May, W. L., Guin, Ala.

Parke, Davis & Co., Detroit, Mich.; Pole, Henry S., Hot Springs, Va.; Pilcher, James E., Columbus, Ohio; Procter & Collier Co., The, Cincinnati, Ohio.

Schering & Glatz, New York, N. Y.; Shelton, John B., New Decatur, Ala.; Smith, P. H., Soldier's Grove, Wis.; Stephens, Wm. A., Cleveland, Ohio; Savage, G. C., Nashville, Tenn.

Thompson, John A., Cincinnati, Ohio.

University Medical College, Kansas City, Mo.

Wright, A. L., Carroll, Iowa; Wainwright, J. W., New York, N. Y.; Woodbury, Frank, Philadelphia, Pa.